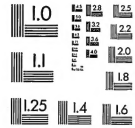
MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



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Thomas A. Edison Papers

A SELECTIVE MICROFILM EDITION

PART IV
(1899–1910)

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START

176

A Note on the Sources

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Notebook, N-07-08-05

07-09-05

August 5, 1907.

Index, Set #1.

53.98	5410
99	11
5400	12
5401	5413
02	14
03	15
5404	5416
05	17
06	18
5407	5419
08	20
09	21

Continued from Vol. 1.

D

	Time	Amps	5'08	5'09	5'10	5'11	5'12	5'13	5'14	5'15	5'16	5'17	5'18	5'19	5'20	5'21	5'22	5'23	5'24	5'25	5'26	5'27	5'28	5'29	5'30	5'31
Change # 211	6:30 AM	200																								
8/5/07	11:30	"	169	168	170	170	167	169	169	170	170	170	169	169	169	168.5	167	170	169	169						
Discharge #211	11:35	150	149	149	146	147	147	147	147	147.5	145	144	147	146.5	145	145	146.5	145	147	149	145	147	148			
8/5/07	:39	"	143	143.5	141	142	143	143.5	143	143	142	141	144	144.5	144	143	144	144	144	144	143	144	144			
	:45	"	141	141	139	140	141	140	140	140	140	139	142	142	142	141	142	142	142	142	142	142	142			
	:55	"	139	139	137	138.5	138	138	138	138	138	138.5	140	140	140	138	140	140	140	140	140	140	140			
	12:15	"	136	136	134	134	135	135	135	135	135	135	139	139	139	138	138	138	138	138	138	138	138			
	:35	"	134	134	132	132	133	133	133	133	133	133	137	137	137	135	135	135	135	135	135	135	135			
	:55	"	132	132	130	130	131	130.5	131	131	131	131	134	134	134	131.5	133	133	133	133	133	133	133			
	1:15	"	131	131	128.5	128.5	129.5	129	129	129	129	129	132	133	133.5	130	132	133	133	133	133	133	133			
160	:35	"	129.5	130	127	127	128	128	128	128.5	128	128	130	132	132	129	131	132	132	132	132	132	132			
	:55	"	128	129	125.5	126	126.5	126.5	126	126	126	126	129	130	130.5	128	129	129	129.5	129	129	129	129			
	2:15	"	126	127	124.5	125	125.5	125	125	125	125	125	128	129	129	127	128	128	128	128	128	128	128			
190	:35	"	124	124.5	124.5	124	123	123.5	124	124	124	124	127	128	128	125	127	127	127	127	127	127	127			
200	:55	"	124.5	122	118	122	120	121.5	125	125	125	125	126	126	126	124	125	126	126	126	126	126	126			
201	:60									100																
210	3:00	"	119	120.5	113	121	116	120	122	122	122	122	120	115	120	124	125	125	122	124	124	124	124			
219	:14	"			100																					
220	:15	"	116	118		120	110	119	119	121	121	122	119	106	118	122	124	124	121	122	125	124	125			
224	:19	"					100																			
225	:20	"												100												
230	:25	"	102.5	112		118		117	119	119		113			116	120	121	122	118	120	123	125	124			
232	:30	"	100																							
233	:31	"		100																						
237	:32	"																								
240	:35	"				115		102	114	112	114			100		109	115	117	120	114	116	120	124	122		
								100																		
242	:37	"											100													
248	:43	"													100											
250	:45	"				110			103	113						106	110	115	107	107	116	120	119			
257	:46	"							99																	
258	:48	"							98							100				100						
259	:49	"																								
260	:51	"				100													100							
263	:54	"																								
264	:55	"																								

D

	TIME	RATE	5305	5306	5307	5308	5309	5310		5304	5305	5306	5307	5308	5309	5310	5311	5312	5313	5314	5315	5316	5317	5318	5319	5320	5321	
159½	3.15½	.150									.100										.102.5				.109.5		.112	.108
160	.55	"																			.100							.105
161	.56	"																										.100
167	4.02	"																										.100
167½	.03½	"																										
Change # 3-12	6.50	.200	154	155	158	159	158	159		158	160	158	162	159	160	158	157	157	159	159	159	161	159	157	159	159	159	
8/6/05	.54	"	162	162	164	164	164	165		163	165	165	164	163	163	163	163	161	162	164	162	162	162	161	161	161	160	
	7.00	"	165	161	167	166	165	165		166	165	165	163	166	160	168	160	164	164	165	164	164	163	163	163	163	163	
X-5 lbs @ 200	.10	"	166	166	168	165	165			165	165	166	165	167	165	166	166	166	165	166	165	165	165	165	165	165	165	
	.50	"	168	168	170	170	170			170	170	169	172	170	170	170	168	168	168	168	168	168	168	167	167	168	167	
	.50	"	168	168	170	172	170			170	170	169	170	170	170	170	168	168	168	170	168	167	168	167	167	167	167	
	8.10	"	169	169	169	165	170	170		169	170	169	170	169	169	168	168	168	170	168.5	167	154	167					
	.30	"	168	169	169	170	169	170		169.5	169.5	168	170	169.5	170	167	167	167.5	170	169	166	159	166.5					
	.50	"	169	169.5	169	170	169	170		169	169.5	170	170	169	170	167	167	167	170	169.5	165	162	166.5					
	9.10	"	169	169.5	169	170	169.5	170		169.5	169	170	170	169	170	167	167	167.5	170	169	166.5	166	166.5					
	.30	"	169	169.5	169	170	169	170		169	170	169	170	170	170	170	167	167.5	170	169	169	169	167					
	.50	"	169	169.5	170	170	169	170		169	170	169	170.5	170	170	170	167.5	167.5	169	170	169	169.5	167					
	10.10	"	169	169.5	170.5	170	169	170		169	170	169	170	170	170	170.5	169	169	169	170	169	170	167					
	.30	"	169	169	170	170	170.5	170		169	170	169	170	170	170	170	169	169.5	169.5	169	169	170	169.5					
	.50	"	169	169	170	170	170	170		169	170	169	170	170	170	170	169	169	169	169	169	170	169					
	11.10	"	169.5	169	170	170	169	170.5		170	170	169	170	170	170	170	169	169	169	169	169	170	169.5					
	.30	"	169.5	169	170	170	169	170		170	170	169	170	170	170	170	169	169.5	169	169.5	169	170	169					
5 lbs. @ 200 m.a.	.50	"	169	169	170	170	169	170		170	170	169	170	170	170	170	169	169.5	169	169	169	169	169					

(Discharge Over)

D

	Time	Amps	5249	5248	5250	5251	5252	5253	5255	5256	5254	5257	5258	5259	5260	5261	5262	5263	5264	5265	5266	5267	5268	5269	5270	5271	
Discharge #212	AM 11.55	150	149	149	146	147	147	147	147	147	144	147	147	147	147	149	149	147	147	147	147	147	147	147	147	147	5245
8/6/07	.59	"	143	141	141	142	142	142	143	143	144	140	143	143	141	148	146.5	144	143.5	144	144	144	144	144	144	144	5246
	12:05	"	141	141	139	140	141	140	140	140	142	137	140	140	139	142	142	142	141	142	142	142	142	142	136	142	5247
X-5 Run @ 200	.15	"	139	139	137	138	138.5	138	139	139	139	135	138	138	136	140	140	140	139	140	140	140	140	140	138.5	140	5248
	.35	"	136	136.5	134	134	135.5	135	135	135	136.5	133	136.5	136	133	137	137	137.5	135	137	137	137	137	137	137	137	5249
40	.55	"	134	134.5	132	132	133	132.5	132.5	132.5	133	129	133	133	131	135	136	136	133	135	135.5	132	132	132	132	132	5250
	1.15	"	132.5	133	130	130	131	130.5	131	131	133	129	132.5	129	129	134	134	134	131	133.5	134	131	131	131	131	134	5251
	.35	"	131	131.5	129	129	130	130	130	130	132	129	130	129	129	133	133	133	130	132	133	130	130	130	130	133	5252
120	.55	"	130	130	129.5	129	129	128.5	129	129	129	129.5	129	129	127	132	132	132	129	131	132	131	131	131	131	133	5253
	2.15	"	129.5	129	126	127	127	127	129	129	129.5	129.5	129	129.5	128.5	128.5	131	131	128	130	131	131	131	131	131	131	5254
	.35	"	127	127	124	125	125	126	126.5	126.5	129	126	126	126	124	130	130	130	127	129	130	130	130	130	131	130	5255
190	.55	"	125.5	125.5	122	124	123	124	125	125	126.5	124	124	124	122	128	129	129	126	128.5	129	128.5	128.5	128.5	130.5	129	5256
	3.15	"	122	123	119	122	120	122	124	124	123	123	121	121	116	126	126	126	124	126	126.5	126	126	126.5	126	127	5257
200	.15	"										100															5258
240	.35	"			100																						5259
242	.37	"	114	118		120	109	117	121	121	122		118	123	117	122.5	124	124	121	122	125	108	125				5260
244	.39	"												100													5261
245	.40	"					100																				5262
247	.40	"	98	101		118		110	119	120	119		117		114	119	122	122	119	120	122	119	124				5263
248	.45	"		100																							5264
249	.55	"				116		103	116	117	114		100		106	115	119	120	114	116	121	126	122				5265
249	.57	"						100																			5266
249	.59	"													100												5267
248	4.03	"										100															5268
250	.05	"				105.5			117	114						103	112	113	105	105	116	113	119				5269
252	.07	"														100				100							5270
255	.10	"				100																					5271
257	.12	"																	100								5272
259	.15	"																100									5273
260	.15	"				105.5											192					109	100	113			5274
261	.16	"				100																					5275
263	.19	"															100										5276
264	.22	"																			100						5277
264	.24	"																					100				5278

D.

	Time	Amps	5448	5449	5450	5451	5452	5453	5444	5445	5446	5447	5448	5449	5440	5441	5442	5443	5444	5445	5446	5447	5448	5449	5450	5451	
Change = 213.	7.45	7.50	on change						4 hrs. @ 7.50 m-s.																		
8/7/07	11.45	"	169	169	170	170	167	166	168	170	169	170	170	170	171	168	169	169	169	168	169	167	169				
Discharge = 213.	11.50	150	146	149	146	147	147	147	146	147	146.5	146	146	146	144	147	147	147	146.5	147	147	147	147				
8/7/07	.54	"	142	143	140	141	142	146.5	140	141	142	139	141	141	139	142.5	142.5	140.5	140.5	143	143	139	143				
	7.00	"	140	140	139.5	140	140	139.5	140	140	140.5	137	140	139.5	138	140.5	140.5	140.5	139.5	141	141	136	141				
	.10	"	138.5	139	137	137	139	139	138	138	138	135	138	138	135	139.5	140	140	138	139.5	140	135.5	140				
	.30	"	136	136.5	134	134	135.5	135	135	135	136.5	132	136	136	132	137	137	137.5	135	137	137	135.5	135				
40	.50	"	134.5	134.5	132	132	133	133	133	133	134.5	130	133	133.5	130	136	136	136	133	135	136	134	135.5				
	8.10	"	133	133	130.5	130	131	131	131	131	133	129.5	132	132	128	134	134	134.5	131	134	134	133	134.5				
	.30	"	132	132	129	129	130	130	130	130	132	126	130	130	127	133	133	133	130	133.5	133	133	133				
120	.50	"	130	130	129	129	129	129	129	129	131	124	129	129	125.5	132	132	132	129	131	132	133	132				
	9.10	"	129	129	127.5	126	126	127	129.5	129	130	122	127	127	124	130.5	131	131.5	129.5	130	131	133	131				
	.30	"	126	126.5	123	125.5	124	125	126	126	128	120	126	126	123	129	129	129.5	126	128	130	133	130				
190	.50	"	123	124	120	123	121	123	124	124	126	118.5	123	123	121.5	126.5	126	126.5	125	129	128.5	132	128				141
194	5.42	"											100														141
197	3.07	"			100																						
200	.10	"	115	120		121	114	120	122	122	122.5		119	108	119	125	126	126	123	124.5	126	110	126.5				510
202	.19	"												100													510
209	.17	"	100				100																				
210	.20	"		110		114		115	120.5	120.5	121		115		117	123	124	124	121	123	125	109	125.5				500
212	.22	"		100																							
219	.29	"												100													500
220	.30	"				116		105	119	119	117				113	120	121	122	118	120	123	106.7	124				500
224	.34	"						100																			
230	.40	"				117			114	116	108				107	115	118	119	113	116	121	106	122				495
234	.44	"									100																
235	.45	"													100												495
235.5	.45.5	"							100																		495
239	.49	"				100																					495
240	.50	"								109						105	109	110	103	105.5	116	102	116.5				495
241	.51	"																		100							495
243	.53	"														100											495
244	.54	"																	100								495
244.5	.54.5	"								100																	495
245	.55	"																				100					495

D

	TIME	AMPS	5398	5399	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	
7-46	3.56	150																									7-45
7-46		150	"																								7-46
7-50	4.00	"															100				100						
7-56	04	"																						100		100	7-50
7-57	07	"																									7-56
																								100			7-57
Charge #214	7.46	250	154	155	160	162	160	162	160	162	160	164	161	161.5	165	160	159	159	163	160	164	159					
8-8-07	49	"	165	165	167	168	166	168	166	168	165	169	166	169	167	164	164	166	164	165	165	165					
	55	"	166	166	166	169	169	165	169	170	166.5	170	169	169.5	171	166	165.5	165	169	166.5	166	165					
X-4 lm @ 250	8.11	"	168	168	169.5	170	171		170	172	169	170.5	169	169.5	172	168	168	169.5	169	168	168	167					
	25	"	169	168	170	172	172	172	172	172	172	170	170	170.5	169	169.5	169.5	170	169.5	169.5	151	167.5					
	45	"	169	169	169.5	172	170	172	169.5	172	169	171	170	169	174	169	169	169	170	168.5	167	170	169.5				
	9.05	"	169	169	169	169.5	169	169	169	171	168	170	170	169	174	169	168	168	170	168	167	164	169.5				
	25	"	169	169.5	169.5	171	169.5	169	169	171	168	170	169	169	173	169	167	167	170	168	166.5	167	167				
	45	"	169	169.5	169	171	169	169	169.5	170	169.5	170	170	170.5	170	169.5	167	167	170	169	167	169	167				
	10.05	"	169	169.5	170	171	169.5	169	169.5	170	169.5	170	170	170	172	169	167	169.5	170	169.5	167	169	167				
	25	"	169	169.5	169.5	169.5	167	169	169.5	170	169	170	171	172	169.5	169	169	170	170	169.5	169	169	167				
	45	"	169	169.5	169.5	169.5	167	170	168	170	168	171	170	170.5	170.5	168	167	169.5	169.5	169.5	170	167	168				
	11.05	"	169	169	169.5	170	169.5	170	169	170	169.5	171	170	170	171	168	167	169	169.5	168	170	167	169				
	25	"	169	169	170	170	167.5	170	169	170	169	170	170	170	171	168	169	169	167	168	169	167	169				
4 lm @ 250 m-s	45	"	169	169	169.5	170	167	170	169	170	169	170	170	170	171	169	169	169	169	168	169	167	168				
Discharge #214	11.50	150	149	149	146	146.5	146	147.5	147	147	149	147	146	146	147	148	149	149	146	147	149	147	148				
8/9/07	54	"	143	143	141	143	142.5	143	143	142.5	144	143	142	143	139	144	144	144	143	144	144	139	146				
	12.00	"	141	141	139	140	141	140	140	140	139.5	140	140	139	143	143	143	141	143	143	134	143				
X-4 lm @ 250	10	"	139	139	137	137	138.5	138.5	139	138	139.5	137	138	139	135	140	140	140	139	140	140	137	140				

	Time	Amps	5389	5390	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	
	17.30	150	127	129	125	124	126	126	125.5	125	125	124	126	121	127	127.5	128	125	127	128	129	129	128				
60	.50	"	125	125	122	122	123	123	123	123	125	123	124	129	126	126	126	123	125	125	125	124					
	1.10	"	123	124	121	120	121	121	121	121	122.5	124	123	122	127	124	124.5	124.5	121	124	124	117	124.5				
	.30	"	122	122	129	129	128	129	128	130	122	126	120	120	126	123	123	123	128	123	123	123	123				
120	.50	"	129	130.5	129.5	129.5	129.5	129.5	129	129	131	124	129	129	124	132	132.5	132	129	132	122	114	132.5				
	1.10	"	128	129	125	124	126.5	126.5	129.5	129.5	128	127	127	127	123	121	121.5	121	125	121	121	114	121				
	.30	"	126	129	123	125	124.5	126	126	126	124	120	126	125	122	129	130	130	125	129	130	114	130				
191	.51	"	123	124	119.5	123	121	123	124.5	124	126	127	123	122	120	127.5	128	128	125	127	128	117	128				191
193	.53	"										96															193
192	3.00	"	125	123	115	122	119	122	124	124	125		122	119	119	123	127	127	124	126	127	127	125				192
194	.06	"			100																						194
201	.11	"	114	119.5		120	111	124	122	123	124		119	103	117	125	124	124	122.5	125	124	111	124				201
203	.13	"												100													203
205½	.16½	"					100																				205½
207½	.17½	"	100																								207½
210	.20	"		110		119		114	121	121	122		115		115	123	125	125	121	123	125	110	124				210
211½	.21½	"		100																							211½
216	.26	"											100														216
220	.30	"				116		101	119	119	118				117	120	122	122	119	120	123	109	124				220
220½	.30½	"						100																			220½
221	.40	"				109			110	115.5	105				107	114	118	119	113.5	114.5	120	105.5	122				221
221½	.41½	"													100												221½
222	.42	"									100																222
222½	.42½	"																									222½
223½	.45½	"				100																					223½
229	.48	"																		100							229
229½	.50½	"													105												229½
241	.51	"								105						109	109	107			114	101	119				241
242	.52	"								100								100									242
243	.53	"																				100					243
244	.54	"															100										244
245½	1.55½	"														100					100		104				245½
251	4.02	"																					100				251
253	.03	"																									253

D

	Time	Amps	5W8	5W9	5W10	5W	5W5	5W6		5W4	5W5	5W6	5W7	5W8	5W9	5W10	5W11	5W12	5W13	5W14	5W15	5W16	5W17	5W18	5W19	5W20	5W21	
Charge #215.	8:00 AM	300							for 3½ hrs. @ 300 m.a.																			
8/9/07	11:20	"	142	142	142	142	142	142		142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142		
Discharge #215.	11:25	150	148	149	149	147	147	147		147	147	148	144	147	147	148	148	148	148	147	148	145	145	143	148			
8/9/07	30	"	144	144	143	143	143	143		143	143	144	144	143	143	144	144.5	145	146	144	144.5	145	145	139	145			
	35	"	141	142	140	140	141	140.5		140.5	140.5	142	138	140.5	141	137	142	142	142.5	141	143	142.5	142	136	146			
	45	"	140	140	139	139	139	139		138.5	138.5	140	138.5	139	139	138.5	140	140	140.5	139	140	140.5	140	133	140.5			
	1:05	"	137	137	136	134	136	135.5		135	135	137	132	135.5	136	130	137	137	137.5	135	137	137.5	135	132.5	135			
160	15	"	135	135	133	132	133	133		133	137	135	129	133	133.5	128	135.5	134	134	133	135.5	133	135	133.5	135.5			
	45	"	133	133	131	130	131	131		131	131	133	129	131	132.5	126	134	134	134	131	133.5	132	134	133.5	133			
	1:05	"	131.5	132	129	129	129.5	129.5		129	130	132	125.5	130	130	124	133	133	133	130	132	133	133	133	133			
170	15	"	129.5	130	129	129	129.5	129		128	128	131	123.5	128.5	129	122	132	132	132	128.5	131	132	132	132	132			
	45	"	127	127	126	125.5	125.5	126		127	127	129	120	126	126	120	129	129.5	129	126	129.5	128	129	129	129			
	2:05	"	124	125.5	124	123.5	124.5	124		125	125	127	111	124	123	118	129.5	129	129	125.5	128	129	129	129	129			
166	15	"											100															-475
180	45	"	118.5	120	120	121	119.5	120		123	123	125		120	122.5	116	127	127	127	125.5	126	127	129	129	129			-450
191	35	"													100													-470
190	35	"	109	115		110	110	110		120.5	122	122.5		115		114	125	126	126.5	123	124.5	124	129	126				-475
190.5	35	"	100																									-470
196	41	"		100																								-490
200	45	"				118		109		119.5	120	119		100		111	123	124	124	123	123.5	125	125	106	125			-500
204.5	45	"						100																				-511
210	.55	"				113				115	116	120.5				106.5	119	121	122	116	119	123	124	124				
213	.55	"										109																-533
217	3:07	"								100																		-543
218	.03	"													100													-545
219	.04	"				100																						-547
220	.05	"									109						113	116	113	109	112	120	121	121				
222	.09	"																						100				-557
225	.09	"									100																	-561
225	.10	"																	100	100								-565
226	.11	"																			100							-567
228	.13	"															100											-571
232	.16	"																100										-579
235	.19	"																					112					-585
238	.23	"																								100		-595
240	.25	"																					100					-600

	Time	A.M.	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421
Change #216	3.00	300	160	162	162	166	163	164	163	165	162	166	164	163	170	162	161	161	161	162	162	160	165	161
8-10-07 Jeff	.04	"	167	168	170	171	170	168	169	168	170	169	168	167	169	167	167	167	167	168	166	166	168	166
	.10	"	169	169	171	172	171	172	172	169	172	172	172	169	172	169	168	168	172	169	169	168	165	168
X-3½ lbs. @ 300	.20	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
	.40	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
	4.00	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
	.20	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
	.40	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
	5.00	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
	.20	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
	.40	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
	6.00	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
3½ lbs. @ 300	.20	"	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
Discharge #216	6.25	150	148	148	147	147	148	148	148	148	147	146	146	146	148	148	148	148	147	148	148	142	142	148
8-10-07 Jeff	.10	"	143	143	142	142	143	143	142	142	142	142	142	142	144	144	145	145	143	144	144	138	138	144
	.35	"	141	141	139	140	141	141	141	141	141	136	136	136	141	141	141	141	141	141	141	132	132	141
X-3½ lbs. @ 300	.45	"	140	140	138	138	139	139	139	139	139	134	134	134	140	140	140	140	139	140	140	134	134	140
	7.05	"	137	137	135	135	136	136	137	137	138	138	138	138	137	137	136	136	136	137	138	131	131	138
	.25	"	133	133	132	132	133	133	133	133	133	132	132	132	133	133	133	133	132	133	133	128	128	133
	.45	"	133	133	131	131	133	133	133	133	133	131	131	131	133	133	134	134	131	133	134	131	131	134
	8.05	"	130	130	129	129	130	130	130	130	130	129	129	129	130	130	130	130	129	130	130	129	129	130
	.25	"	130	130	129	129	130	130	130	130	130	129	129	129	130	130	130	130	129	130	130	129	129	130
	.45	"	130	130	129	129	130	130	130	130	130	129	129	129	130	130	130	130	129	130	130	129	129	130
	9.05	"	130	130	129	129	130	130	130	130	130	129	129	129	130	130	130	130	129	130	130	129	129	130

A

	Time	Hits	5285	5289	5290	5291	5292	5293	5294	5295	5296	5297	5298	5299	5310	5311	5312	5316	5317	5318	5319	5320	5321	
161½	9.04½	150										100												1.493
179	.22	"			100																			1.476
180	.25	"	115	120½		122	113	121	122.5	123	125		119.5	114.5	110	125.5	127	127	124	124	127	129.5	122.5	1.473
190½	.34½	"	100											100										1.477
191	.36	"		100		120	99	113	124	124	125		113		105	125	124	125.5	122	124	124	127	124	1.506
195½	.43	"											100											1.506
200	.55	"				117		105	119.5	119.5	119				105.5	123	124	125	122	122	125	125.5	125	1.506
205	.50	"						100																1.506
210	.55	"				111			117	116	117				100	119	124	120	116	115	123	125.5	124	1.506
212½	.57½	"									100													1.531
214½	.57½	"							100															1.530
217½	.02½	"				100																		1.548
221	.06½	"								105						111	113	111	104	105	117.5	120	120	1.557
223	.08	"								100														1.557
225	.10	"																	100	99				1.557
226	.11	"																100						1.557
229½	.14½	"														100								1.557
230	.15	"															101				110		115	1.557
231	.16	"															100							1.557
236½	.21½	"																			100			1.557
239	.24	"																					100	1.557

X

Hit Test + 4 Reg Runs on

Had 50 Runs in Hooper room on board.

5-4-13
5-4-14
5-4-15

Had 72 Specials Runs in Highlands room before putting on Hit Test again. Which makes the 206th Run up to here.

Time Cap 1258 1259 1340 1316 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321

On Change

| | | |

	Time	Amp	5398	5399	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	
360	2.15	150		104	108^5	110	100	100	112	106	103	107	106	102					116						108	109	900
361	16	"									100																902
362	17	"												100													905
363	18	"		100																							907
364	19	"			100																						910
365	20	"								100																	913
368	23	"										100	100														920
369	24	"																							100	100	922
370	25	"				104			104										113								
373	28	"							100																		932
374	29	"				100																					935
380	35	"																	104								
382	37	"																	100								955
Charge 372 + 208	5.05	150			On			charge																			
9/27/07	11.45	"			off —							6 2/3 hrs.															
Discharge 372 + 208	11.50	150	145	148	147^5	147	147	145	147	146	146	145	145	145	147	148	148^5	145	148	147	148	148	147	147	147^5	147	
	.54	"	140	142^5	142	142	142	140	142	141	141	140	140	141	142	143	143	143^5	143	144	143	143	144	142	142	143	
	12.00	"	138	140	139^5	139	140	137^5	139	138	138	138	138	139	139^5	140^5	140	140^5	141	142	140	140^5	141	140	140	140	
	.10	"	135^5	138	137	137	137^5	135	137	137	137	136	136	136^5	137	138	138	138	138	139	138	138	138^5	137^5	137	138	
	.31	"	132	135	134	133	135	131	134	132^5	132	132	132	133	133^5	135	135	135	135	136	135	135	136	134	134	135	
60	.50	"	130	133	132	131	132	129	132	130	130	130	130	131	131	133	133	133	133	134	132	133	134	132	132	133	
	1.10	"	128	131	130^5	129	131	128	130	128	128	128	128^5	129	130	131	131	130	132	133	131	132	132	131	130^5	131	
	.30	"	127	130	130	128	130	126	129^5	127	127	127	127^5	128	128^5	130	130^5	130	131	132	130	130	131	130^5	130	131	
120	.50	"	126	129	128	127	128	125	128	126	126	126	126	127	128	129	129	129^5	129^5	130^5	129	129^5	130	129	129	130	
	2.10	"	125	128	127^5	127	128	125	128	125	125	125	125^5	126	127	128	129	129	129	130	128	129	129^5	128	128	129	
	.30	"	123	127	126^5	126	126	124	126	124	124	124	124	125	127	128	128	128	128	128	127	128	128^5	127^5	127^5	128	
180	.50	"	122	126	126	125^5	125	123	126	124	124	123	123	124	126	127	127	127^5	128	128	127	127	127^5	127	127	127	
200	3.10	"	119	124^5	124	124	124	122	124^5	123	122^5	120	122	122	125	126	126	126^5	127	127	125	126	127	126	126	127	
220	.30	"	113	122	122	122	122	119	123	121	120	117	119^5	119	124^5	124	124	125^5	125^5	125^5	125	124	125^5	125	126	126	
238	.48	"	100																								595
240	.50	"		119	119	120	117	116	121	119	118	110	116	115	122	122	122	124	123^5	122^5	122	123	123	125^5	125^5	124	

	Time	Amps	2:00	2:05	2:10	2:15	2:20	2:25	2:30	2:35	2:40	2:45	2:50	2:55	3:00	3:05	3:10	3:15	3:20	3:25	3:30	3:35	3:40	3:45	3:50	3:55	4:00	4:05	4:10	4:15	4:20	4:25	4:30	4:35	
255	00.0	150		116	116	118	118	114	119	117	116		120	114	109	120	120	120	123	124	120	120	121	121	121	122	123								630
255	0.5	"											100																						
256	0.8	"													109	120																			655
260	10	"		110	105	114	105	109	115	115	111						119	117	116	120	123	115	117	119	117	119	123	120							
265	15	"			100																														660
268	18	"					100																												
270	20	"		100		110		103	111	111	104				103		112	114	110	117	122	109	113	116	112	117	119	118							670
274	24	"									100				100																				675
276	26	"					100																												680
277	27	"																				100													690
278	28	"							100																										693
280	30	"			103					106						101	106	105	109	120		106	111	101	114	115	115								696
281	31	"																						100											702
281.4	31.4	"														100																			703
283.4	33.4	"			100													100																	708
285	35	"								100																									712
287	37	"														100			100	118		100	101		107	109	104								717
290	40	"																					100												725
291	41	"																										100							727
291.4	41.4	"																																	728
298	48	"																							100										745
300	50	"																		114						101									
301	51	"																		110						100									
310	500	"																		100															750
319	09	"																																	797
Change to 2-28-09	11:20	150	156	155	155	156	156	158	156	158	158		158	158	157	157	156	156	155	155	156	155	158	156	156	155	155								
9-28-09	12.0	"	160	158	158	160	160	163	159	162	161		160	160	160	158	159	159	158	158	159	159	159	159	159	159	158								
	3.0	"	166	162	162	163	163	165	162	164	164		165	164	162	162	163	162	162	161	160	162	162	160	162	162	161								
X-6 3/3 @150	4.0	"	166	165	164	165	164	165	165	164	165		167	166	166	164	166	164	164	164	163	165	164	165	165	164	164								
	12.00	"	168	168	166	166	166	168	167	166	167		169	168	167	166	166	166	166	167	165	166	166	165	167	166	166								
1:12	12.0	"	169	168	168	167	168	169	169	169	169		170	169	169	167	168	167	167	167	167	168	167	167	168	168	167								
	4.0	"	169	168	168	168	168	169	168	169	169		170	169	169	168	168	167	167	168	167	168	168	167	168	168	168								
	1.00	"	169	169	168	168	169	170	169	170	170		170	169	169	168	168	168	167	168	168	168	168	168	168	168	169								
	2.0	"	168	168	168	168	169	170	168	170	170		169	169	168	168	167	167	168	167	168	168	168	168	167	168	169								
	4.00	"	168	168	168	168	169	169	168	170	170		169	168	168	168	167	167	167	167	167	167	167	167	167	167	167								
	2.00	"	168	168	167	167	169	170	168	170	170		169	168	168	168	167	167	167	167	167	167	167	167	167	167	167								

| Time | Avg. | | |

| | Time | Pulse | | |

| | | |

| | | |

	Time	Amp	2058	2059	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	
230	2.45	50		116	116	117	106	106	120	117	125				111	100	121	122	122	124	125	123	122	122	123	122	121	124			-563
235	50	"																													-567
237	50	"					100									103	120	119	119	122	124	121	119	120	121	120	120	123			-577
250	55	"		108	104	115		107	117	115	101																				-585
231	56	"						100																							-583
233	57	"									100					100															-585
233	58	"			100																										-590
233	58	"															117	116	114	120	123	115	114	116	117	117	121				-620
236	2.01	"		100					111	111							109	107	103	117	121	105	107	111	109	112	115	117			-625
240	05	"				110													100												-631
248	13	"						100		103	"																				-645
250	15	"				100				100																					-643
252	17	"															100														-645
257	22	"																100				100									-647
257	22	"																		106	119			103		103	109	108			-656
258	23	"																						100							-657
258	24	"																		100						100					-660
264	30	"																												100	-651
264	30	"																													-651
264	30	"																			115									100	-651
264	33	"																			107										
270	37	"																			100										
280	45	"																			100										
286	51	"																													
Change to 260 Ah	6.00	200	160	159	159	160	163	161	166	157		167	162	160	161	160	160	159	161	161	158	162	160								715
10/2/07	0.04	"	170	167	167	169	167	168	171	165		174	174	169	168	168	167	167	166	167	165	168	168								
	0.0	"	170	168	166	169	169	169	170	166		174	171	170	168	168	166	168	169	168	166	169	169								
X-5 hrs @ 200	0.0	"	170	170	169	170	170	170	174	169		174	173	170	170	170	170	170	168	170	168	171	171								
	0.0	"	170	170	170	170	170	170	174	170		174	173	170	170	170	170	170	170	170	170	170	170								
	0.00	"	170	170	170	170	170	170	174	170		174	173	170	170	170	170	170	170	170	170	170	170								
	0.0	"	170	170	170	170	170	170	174	170		174	173	170	170	170	170	170	170	170	170	170	170								
	0.0	"	170	170	170	170	170	170	174	170		174	173	170	170	170	170	170	170	170	170	170	170								
	0.00	"	170	170	170	170	170	170	174	170		174	173	170	170	170	170	170	170	170	170	170	170								
	0.0	"	170	170	170	170	170	170	174	170		174	173	170	170	170	170	170	170	170	170	170	170								
	0.40	"	170	170	170	170	170	170	174	170		174	173	170	170	170	170	170	168	170	170	170	170								
	9.00	"	170	170	170	170	170	170	174	170		174	173	170	170	170	170	170	169	170	170	170	169								

	Time	Temp	5398	5399	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	
	920	200	172	170^5	172^5	172^5	171	173	170^5	174	172	175	174	173	172^5	171	172	171	169	169	172	171	170	170	170	170	
	40	"	172	171	173	172^5	171	173	170^5	173	172	175	174	173	172^5	171	172	172	169	169	172	171	170^5	171	171	170	
4 hrs	10.00	"	172	171	172^5	172^5	171	173	170	173	172	174^5	173^5	173	172^5	171^5	172	172	169	170	172	171^5	171	171	171	171	
	20	"	172	171	172	172^5	171	173	170^5	173	171	174	173	173	172	172	172	172	169	170	172	172	171	171	171	172	
	40	"	171	171^5	172	172	170^5	173	170^5	173	171	174	173	173	172	172	172	171^5	169	170^5	172	172	171	172	171	172	
5 hrs	11.00	"	171	171	171^5	172	170	173	170	172	171	174	173	172	172	172	172	171	169	170	172	172	171	172	171	171^5	
Discharge 276 & #212	11.05	150	147	149^5	49	47	148	146	148	147	146	145	146	146	148	149	148	148	148	149	147	148	149	147	147	148	
	.09	"	141	144	143	142	143	140^5	142	141	141	140	141	141	143	144	143	144	144	144	143	143	144	142	142	143	
X-5 hrs @ 200	15	"	139	141	140	39	141	138	140	139	138	137^5	138	139	141	141^5	141	141	141	142	140	141	142	140	140	141	
	25	"	137	139	138	136	139	135	137^5	136	135	135	136	137	138	139	138^5	138	139	140	138	138^5	140	137^5	137	139	
	45	"	133	136	135	132	135	130	134	132	131	132	132	134	135	136	135	135	135	137	135	135	137	134	132^5	136	
60	12:05	"	131	134	133	130	133	127	132	129	128	130	130	131	132^5	133^5	133	133	132^5	135	133	133	134^5	132	130	134	
	25	"	129	132	131	128	131	125	130	127	126	128	128	129	131	132	132	131	131	134	131	131	133	130^5	128	132	
	45	"	127	131	130	126^5	129	123	129	126	124	127	126	128	129^5	131	130^5	130	130	132	130	130	132	129^5	127	131	
120	1:05	"	126	130	129	125^5	128	121	128	125	120	125	125	127	129	130	130	129^5	129	131	129	129^5	131	128^5	126	130	
	25	"	124	129	128	124	127	118	127	124	114	124	123	125	128	128^5	128	128	128	129^5	128	128	129^5	127	125	129	
	45	"	121	127	126	123	125	116	126	122	111	122	121	124	127	127^5	127^5	127	127	129	127	127	129	127	124	128	
180	2:05	"	115^5	126	124	122	123	113	125	120	107	119	119	122	125^5	126	126	126	126	127	126^5	126	127^5	126	123	127	
194	19	"	100																								-485
200	25	"		122^5	121	120	118	110	123	118	104	114	116	119	124	125^5	125	124^5	125^5	125	124	125	126	124	122	126	
210	35	"		120.5	120	118	113	108	122	117	103	108	114	116	123	124	124	125	125	124	123	124	125	123	121	125	
214	39	"										100															-535
220^5	45	"		115	115	116	101	103	120	115	101		107	106	122	122	122	123	124	122	121	122	123	122	120	124	
221^5	46^5	"					100																				-553
225	50	"												100													
228^5	53^5	"									100																-562
229	54	"											100														-571 -572
230	55	"		106	100	114		101	117	113					120	120	119	122	123	118	118	120	120	122	118	122	-575
232	57	"						100																			-580
234	59	"		100																							-585
240	3:05	"				107			108	109					116	116	115	120	122	109	111	113	116	117^5	116	120	
246	11	"							100																		-615
248	13	"				100																					-620

| | Time | Chg | | |

| Time | Amp | | |

| Time | | |

| Time | Amp | | |

| | Time | Cap | | |

X - 3 1/3 @ 300

Time	Amps	1398	1399	1400	1401	1402	1403	1404	1405	1406
	11.45	137	140	139	136	139	136	138	136	136
	12.06	133	139	135	132	136	131	134	132	132
	25	131	134	133	129	133	128	132	129	130
	45	129	133	132	127	132	126	130	127	128
	1.05	127	131	130	126	129	124	129	126	127
120	25	124	130	128	124	128	122	128	124	125
140	45	121	128	125	123	126	120	127	123	124
160	2.05	103	126	125	121	123	117	125	121	122
161	06	100								
180	25	122	121	119	116	122	113	119	119	
185	35									
190	37	111	113	116	100	107	100	116	118	
196	47									
200	45	100	100	114		104	109	115	114	
200 2	55	100								
201	46									
205	50					100				
215	55			109			107	107	106	
218	3.03						100			
219	04			100						
220	05							106	101	
221	06								100	
225	10							100		
226	11									
228	13									
230	15									
232	17									
235	20									
235	20									
236	21									
236	21									
240	25									
241	26									
242	27									
246	29									
250	32									
257	42									

1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	
136	136	137	138	140	139	138	138	140	139	139	140	138	136	139	
133	132	133	135	136	135	135	134	138	135	135	137	134	131	136	
130	130	131	133	134	133	133	131	135	134	133	135	132	129	134	
129	128	129	131	132	131	131	130	133	132	131	133	130	127	132	
127	126	127	130	130	132	130	128	132	130	130	132	130	126	131	
125	125	125	128	130	129	129	127	131	129	129	131	128	125	130	
123	123	124	127	128	128	128	126	128	128	128	130	127	123	128	
119	121	122	126	127	127	126	125	128	126	127	128	126	121	127	
103	117	117	126	126	125	125	126	125	125	125	127	126	119	126	
100															
	108	104	124	124	124	124	123	124	123	124	125	123	116	125	
		100													
	101		123	123	123	124	123	123	122	122	124	122	114	124	
	100														
			121	120	120	122	121	120	118	118	117	119	114	122	
			118	117	117	120	120	110	112	117	116	118	110	120	
								100.0							
									100						
			110	108	107	117	118			110	104	112	106	116	
											100				
			100	100									100		
					100										
									100						
						108	115					101		104	
												100			
						100								100	
						108									
						100									

-400
-425
-450
-500
-501
-503
-512
-514
-517
-520
-522
-564
-565
-570
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-582
-584
-590
-591
-602
-604
-610
-642

Notebook, N-08-12-22.1

December 22, 1908.

A4 CELL #398.

Contains –

#731 $Ni(OH)_2$
19+2% Ni flake
962 Fe Mix

Cell received dry.
Filled with 1330 cc of 21% KOH
containing 45 gr of $SiOH$
per liter and added 60 g.
of dry $SiOH$.
Allowed plates to soak in the
electrolyte 22 hours before
putting cell on charge.

A4 *398

DATE	TIME	MIN.	AMPS	VOLTS 398	VOLTS 7.2	VOLTS Ni	REMARKS
			Charge				
12/22/8	PM 1.45	0	.15	.55	1. .44	9 .005	Nickel Tab Electrode
	.47	2	"	.585	.48	.110	
	.50	.5	"	.59	.479	.105	
	.55	10	"	.593	.479	.111	
	2.05	20	"	.600	.479	.113	
	.15	30	"	.605	.48	.119	
	.26	41	"	.627	.50	.122	
	.35	50	"	.662	.535	.123	
	.40	55	"	.702	.572	.125	
	.45	60	"	.74	.607	.127	
	.50	65	"	.877	.74	.132	
	.55	70	"	1.08	.94	.137	
	3.00	75	"	1.28	1.138	.137	
	.05	80	"	1.50	1.36	.137	
	.10	85	"	1.56	1.419	.132	
	.15	90	"	1.616	1.472	.136	
	.25	100	"	1.622	1.482	.135	
	.35	110	"	1.622	1.482	.135	
	.46	120	"	1.623	1.481	.137	
	4.05	140	"	1.623	1.481	.135	
	.25	160	"	1.623	1.479	.134	
	.45	180	"	1.623	1.479	.139	
	5.05	200	"	1.623	1.479	.139	
	.25	220	"	1.628	1.471	.147	

DATE	TIME	MIN.	AMP.	VOLTS 398	VOLTS 7.2	VOLTS Ni
12-22-8	PM. 5.45	240	.15	1.625	1.472	.142
	6.05	260	"	1.625	1.471	.142
	.25	280	"	1.625	1.467	.143
	.45	300	"	1.627	1.467	.145
	7.05	320	"	1.632	1.466	.15
	.25	340	"	1.632	1.465	.15
	.45	360	"	1.632	1.463	.152
	8.05	380	"	1.636	1.462	.155
	.25	400	"	1.636	1.465	.155
	.45	420	"	1.637	1.466	.155
	9.05	440	"	1.636	1.465	.156
	.25	460	"	1.636	1.465	.157
	.45	480	"	1.638	1.464	.158
	10.05	500	"	1.64	1.466	.16
	.25	520	"	1.641	1.466	.161
	.45	540	"	1.642	1.467	.162
	11.05	560	"	1.642	1.467	.161
	.25	580	"	1.65	1.470	.162
	.45	600	"	1.657	1.472	.162
12/23	AM 12.05	620	"	1.662	1.48.2	.165
	.25	640	"	1.67	1.49	.165
	.45	660	"	1.67	1.49	.166
	1.05	680	"	1.675	1.494	.17
	.25	700	"	1.67	1.497	.17
	.45	[illegible]	"	1.67	1.50	.170

DATE	TIME	MIN.	AMP	VOLTS 398	Fe.	Ni.
12/23/68	AM 2:05	740	15	169	1500	17.5
	.25	760	"	170.1	151	17.7
	.45	780	"	171	151.5	17.5
	3:05	800	"	171	152.2	17.3
	.25	820	"	172	153	17.5
	.45	840	"	172	153	17.2
	4:05	860	"	172.5	152.5	17.5
	.25	880	"	172.3	153.2	17.3
	.45	900	"	173	154	17
	5:05	920	"	173	154.1	17.5
	.25	940	"	173	154	17.2
	.45	960	"	173	154.2	17.1
	6:05	980	"	173	154.2	17.2
	.25	1000	"	173.6	155	17.5
	.45	1020	"	174.4	155	17.3
	7:05	1040	"	174.5	155	17.5
	.25	1060	"	174	154.4	17.1
	.45	1080	"	174.2	155.5	17.1
	8:05	1100	"	174.2	155.5	17.1
	.25	1120	"	174.6	155.4	17.2
	.45	1140	"	175	155.9	.19
	9:05	1160	"	175	155.9	.18
	.25	1180	"	175	155.9	.18
	.45	1200	"	175	155.9	.18
	10:45	1260	"	174.7	155.7	.195

DATE	TIME	MIN.	AMP	VOLTS 398	Fe.	Ni.
12/23/68	AM PM 11:45	1370	15	174	155	.179
	12:45	1380	"	174	155	.179
	1:45	1440	"	173.9	154.2	.178
	2:45	1500	"	173.4	154	.177
	3:45	1560	"	173.2	154	.177
	4:45	1620	"	173.9	153.9	.178
	5:45	1680	"	173.6	154	.178
	6:45	1740	"	173.3	153.2	.177
	7:45	1800	"	173.3	153.9	.177
	8:45	1860	"	173	153.5	.176
	9:45	1920	"	173	153.4	.176
	10:45	1980	"	173.9	153.3	.176
	11:45	2040	"	173.7	153	17.1
12/24	12:45	2100	"	173	153.1	17.1
	1:45	2160	"	173.7	153	17.4
	2:45	2220	"	173.7	153	17.4
	3:45	2280	"	173.2	153.5	17.5
	4:45	2340	"	173.2	153.5	17.5
	5:45	2400	"	173.2	153.7	17.5
	6:45	2460	"	173.5	153.5	17.5
	7:45	2520	"	173.2	153.5	17.5
	8:45	2580	"	173.2	153.6	17.6
	9:45	2640	"	173.5	153.2	.179
	10:45	2700	"	173.5	153.2	.179
	11:45	2760	"	173.5	153.1	.18

DATE	TIME	MIN.	AMP	VOLTS 378	Ex	Th	
12/24/48	PM 12.45	2920	15	1.727	1.53	.185	
	1.45	2980	"	1.727	1.536	.181	
				Discharge — T			
12/24	PM 1.48	—	off	1.877	1.423	.139	
	50	0	30	1.48	1.37	.08	
	52	2	"	1.383	1.325	.046	
	55	5	"	1.362	1.322	.037	
	2.00	10	"	1.345	1.32	.017	
	10	20	"	1.322	1.32	.003	
	20	30	"	1.30	1.319	-.023	
	30	40	"	1.28	1.316	-.04	
	50	60	"	1.252	1.309	-.062	
	3.10	80	"	1.223	1.305	-.091	
	30	100	"	1.203	1.302	-.102	
	50	120	"	1.192	1.30	-.12	
	4.10	140	"	1.177	1.30	-.135	
	30	160	"	1.162	1.30	-.142	
	50	180	"	1.152	1.297	-.147	
	5.10	200	"	1.147	1.296	-.152	
	30	220	"	1.14	1.294	-.161	
	50	240	"	1.132	1.293	-.165	
	6.10	260	"	1.122	1.292	-.175	
	30	280	"	1.117	1.29	-.18	
	50	300	"	1.106	1.285	.153	

DATE	TIME	MIN.	AMP	VOLTS 378	Ex.1	Th	
12/24/48	PM 7.10	320	30	110	1.285	-.192	
	.30	340	"	1.095	1.28	-.20	
	.50	360	"	1.092	1.282	-.205	
	8.10	380	"	1.089	1.282	-.22	
	.30	400	"	1.082	1.281	-.242	
	.50	420	"	1.075	1.279	-.26	
	9.00	430	"	1.009	1.279	-.277	
	.03	433	"	1.00	1.279	-.285	-216.5
	.10	440	"	.98	1.28	-.309	
	.20	450	"	.905	1.287	.392	
	.25	455	"	.762	1.292	.552	
	.28	458	"	.50	1.297	.805	-229.2
				•	•	•	

Stood 74 hours over Christmas, Saturday, and Sunday.

DATE	TIME	Min.	AMP	VOLTS	TEMP. 398	TEMP. 1022
12/27/[illegible]	PM			Charge #2		
	11.20	0	20	on charge		
	.50	20	"		71.5	77.5
12/28	AM 1.50	150	"		80	78.2
	3.50	270	"		78.5	79.5
	5.50	390	"		78	71.5
	7.50	510	"		88	74.7
	9.20	600	"		88 (71.5)	72

Put cell in cooling coil and continued charge at lower temperature as follows:

DATE	TIME	Min.	AMP	VOLTS	TEMP. 398	TEMP. 1022
12/28	AM 9.50	0	30		68.5	72.
	10.50	60	"		66	72
	11.50	120	"		59.5	73.5
	12.50	180	"		58	74.5
	1.50	240	"		61	75.5
	2.50	300	"		64.5	77.5
	3.50	360	"		65	78
	4.50	420	"		66	78
	5.50	480	"	1.025	62	77.2
					(63.5)	

DATE	TIME	Min.	AMP	VOLTS	TEMP 398	TEMP 1022
	TIME			Discharge #2		
12/29	5.52	—	open	1.672		Cool air
	.55	0	600	1.42		
	.57	2	"	1.265		
	600	5	"	1.20		
	.05	10	"	1.17		
	.15	20	"	1.145		
	.25	30	"	1.122		
	.35	40	"	1.10	73	77.2
	.45	50	"	1.085		
	.55	60	"	1.072		
	7.05	70	"	1.062		
	.15	80	"	1.057	82	77
	.25	90	"	1.042		
	.35	100	"	1.032		
	.45	110	"	1.02		
	.55	120	"	1.007	98.5	77
	8.00	125	"	1.00		-125.
	.05	130	"	.98		
	.15	140	"	.965		
	.25	150	"	.945		
	.35	160	"	.922	1.045	76
	.45	170	"	.902		
	.55	180	"	.862		
	9.05	190	"	.84		

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP		
12-28-8	PM 9.15	200	60	.76	117	76	
	.20	205	"	.647			
	.21	206	"	.60			-206

Let stand 2 hrs.

Charge 3

12/29	PM 12.25	0	20	89	76.5		
	2.25	120	"	89.5	74.7		
	4.25	240	"	89	77.5		
	6.25	360	"	89	747		
	8.25	480	"	91	74		
	10.25	600	"	225 (90)	74		

Put cell in cooling can and continued charge at lower temperature as follows

	AM 10.55	0	20	70	74		
	11.55	60	"	64.2	737		
	12.55	120	"	63.2	74.7		
	1.55	180	"	63	74.7		
	2.55	240	"	64.5	75		
	3.55	300	"	62	75.5		
	4.55	360	"	60.5	77		
	5.55	420	"	61	77		
	6.55	480	"	19.0	61.2	77.2	
					(63)		

DATE	TIME	MIN.	AMP	VOLTS 398			
			Discharge 3				
12-29-8	PM 6.58	—	open	1.622	61.2	77.2	Clm air.
	7.00	0	60	1.465			
	.02	2	"	1.28			
	.05	5	"	1.24			
	.10	10	"	1.21			
	.20	20	"	1.17			
	.30	30	"	1.14			
	.40	40	"	1.12	80.2	77.5	
	.50	50	"	1.11			
	8.00	60	"	1.095			
	.10	70	"	1.082			
	.20	80	"	1.073	91	77.5	
	.30	90	"	1.062			
	.40	100	"	1.045			
	.50	110	"	1.035			
	9.00	120	"	1.015	101	77.7	
	.10	130	"	1.00			-130
	.20	140	"	975			
	.30	150	"	952			
	.40	160	"	933	113.5	77.5	
	.50	170	"	913			
	10.00	180	"	885			
	.10	190	"	845			
	.20	200	"	78	117	77.7	

DATE	TIME	MIN.	AMP.	VOLTS 398	TEMPS 398 Volts	
12-20-8	1025	205	60	.62		
	.28	208	"	.60		-.208

Let Stand 3 hours.

Charge #4

	TIME	MIN.	AMP.	VOLTS 398	TEMPS 398 Volts	
12-20-8	1.30 PM.	0	20		on charge	
	2.00	30	"		90	77
	4.00	150	"		90.5	76.5
	6.00	270	"		89.5	76.5
	8.00	398	"		88.7	76.5
	10.00	510	"		89.5	74.5
	12.00 PM	630	"		91	74
	2.00	750	"		92	74.2
	4.15	870	"		94	74.5
	12.00	900	"	1.822	90.6	
				398	Ve	Vc

Discharge #4

	TIME	MIN.	AMP.	VOLTS 398	Ve	Vc
12-20-8	4.25 PM.	—	Open	1.525	1.47	.101
	.35	0	20	1.51	1.44	.056
	.37	2	"	1.4227	1.394	.018
	.40	5	"	1.396	1.38	.005
	.45	10	"	1.377	1.377	-.002
	.55	20	"	1.345	1.363	-.02
	5.05	30	"	1.325	1.36	-.039
	.15	40	"	1.302	1.352	-.05

DATE	TIME	MIN.	AMP.	VOLTS 398	TO NOZ Ve	Vc
12-20-8	PM. 5.35	60	20	1.275	1.344	-.072
	.45	80	"	1.247	1.337	-.09
	6.15	100	"	1.225	1.332	-.107
	.35	120	"	1.215	1.329	-.116
	.55	140	"	1.197	1.32	-.123
	7.15	160	"	1.183	1.32	-.137
	.35	180	"	1.175	1.315	-.145
	.55	200	"	1.162	1.313	-.155
	8.15	220	"	1.152	1.308	-.162
	.35	240	"	1.137	1.303	-.17
	.55	260	"	1.123	1.30	-.18
	9.15	280	"	1.107	1.30	-.193
	.35	300	"	1.096	1.296	-.202
	.55	320	"	1.077	1.285	-.215
	10.15	340	"	1.059	1.282	-.227
	.35	360	"	1.025	1.28	-.259
	.45	370	"	100.7	1.278	1.277
	.49	374	"	100	1.277	-.225 -.187
	.55	380	"	97.5	1.22	-.215
	11.05	390	"	91.7	1.29	-.392
	.15	400	"	77	1.30	-.554
	11.7	404	"	50	1.30	-.761 -.202

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP. 398	TEMP. Water	
12/21/6				Change			
	PM 11.20	0	[illegible]	[illegible]	Change		
	50 AM	[illegible]	"		98	74	
12/21	1.50	[illegible]	"		92	74	
	3.50	270	"		90.4	72.5	
	5.50	270	"		94.5	72.7	
	7.50	270	"		92	73.2	
	9.50	270	"		93.7	72	
	11.50	270	"		94.5	73.5	
	PM 1.50	270	"		95	74	
	2.20	270	"	1.84	93.2		
					Ze	Ni	
				Discharge 5			
12/31-8	TRM. 7.23	—	Off	1.59	1.495	-.102	
	25	0	30	1.50	1.444	.062	
	29	2	"	1.425	1.40	.018	
	30	5	"	1.395	1.38	.003	
	35	10	"	1.375	1.377	-.007	
	45	20	"	1.345	1.372	-.025	
	55	30	"	1.325	1.365	-.042	
	8.05	40	"	1.305	1.36	-.057	
	25	60	"	1.275	1.35	-.079	
	45	80	"	1.255	1.342	-.102	
	4.05	100	"	1.233	1.334	-.114	
	25	120	"	1.215	1.336	-.122	

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS Zn	TO Ni02 Ni.	
12-31-8	TRM. 4.45	140	30	1.20	1.327	-.132	
	5.05	160	"	1.186	1.320	-.14	
	25	180	"	1.178	1.322	-.15	
	45	200	"	1.165	1.32	-.16	
	6.05	220	"	1.155	1.316	-.165	
	25	240	"	1.14	1.314	-.177	
	45	260	"	1.125	1.309	-.183	
	55	270	"	1.12	1.305	-.187	
	7.05	280	"	1.113	1.304	-.196	
	15	290	"	1.106	1.302	-.20	
	25	300	"	1.10	1.30	-.203	
	35	310	"	1.093	1.299	-.206	
	45	320	"	1.081	1.297	-.217	
	55	330	"	1.075	1.295	-.223	
	8.05	340	"	1.062	1.29	-.233	
	15	350	"	1.052	1.289	-.24	
	25	360	"	1.04	1.285	-.256	
	30	365	"	1.029	1.284	-.266	
	35	370	"	1.021	1.283	-.267	
	40	375	"	1.007	1.283	-.282	
	45	378	"	1.00	1.283	-.292	-1.309
	50	380	"	9.95	1.287	-.298	
	50	385	"	9.77	1.288	-.32	
	55	390	"	9.55	1.285	-.347	
	9.05	[illegible]	"	9.03	1.20	-.407	

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS TONIC the Nu	
12-31-09	PM 9.05	400	20	.843	1.203	-.465
	.09	404	"	.745	1.305	-.567
	.11	406	"	.605	1.307	.71
	.13½	409½	"	.60	1.307	-.82 -.203.7

School 76° Home only Thursday, Saturday, Sunday

		TEMPS 398	TOILE
1/8/09	AM		
	Discharge	6	
	.15	73.5	72.5
	.17	2	"
	.20	5	"
	.25	10	"
	.35	20	"
	.45	30	"
	.55	40	"
	2.15	60	"
	.35	80	"
	.55	100	"
	3.15	120	"
	.35	140	"
	.55	160	"
	4.15	180	"
	.35	200	"
	.55	220	"
	5.15	240	"

DATE	TIME	MIN.	AMP	VOLTS 398	TEMPS 398	TOILE
1/8/09	AM 5.25	260	20	171.5		
	.55	280	"	171.7		
	6.15	300	"	172	87	75
	.35	320	"	172		
	.55	340	"	172.2		
	7.15	360	"	173	87.5	74.5
	.35	380	"	173.7		
	.55	400	"	174.2		
	8.15	420	"	176	88	74.5
					87.2	
	Discharge			4	6	
1/9/09	AM 8.18	—	min	1.575		
	8.20	0	20	145.5		
	.22	2	"	142		
	.25	5	"	139		
	.30	10	"	137		
	.40	20	"	133		
	.50	30	"	131		
	9.00	40	"	127.7		
	.30	60	"	127	88	76
	.40	80	"	125.2		
	10.00	100	"	123.7		
	.20	120	"	121.5	89.5	75
	.40	140	"	120.2		
	11.00	160	"	119		

DATE	TIME	MIN.	AMP	VOLTS 398			
	AM.						
1/4/09	11.20	180	20	1.18	91.5	75	
	.40	200	"	1.167			
	PM.						
	12.00	220	"	1.152			
	.20	240	"	1.137	91.5	74.7	
	.40	260	"	1.12			
	1.00	280	"	1.102			
	.20	300	"	1.08	92.5	74	
	.30	310	"	1.067			
	.40	320	"	1.04			
	.50	330	"	1.005			
	.51	331	"	1.00			−165.5
				Charge #7			
1-4-9	P.M. 2.10	0.	20	1.462	95.5	75	
	.12	2	"	1.515			
	.15	5	"	1.53			
	.20	10	"	1.569			
	.30	20	"	1.605			
	.40	30	"	1.635			
	.50	40	"	1.662			
	3.10	60	"	1.665	93.7	75.5	
	.30	90	"	1.669			
	.50	100	"	1.66			
	4.10	120	"	1.66	91.5	75	

DATE	TIME	MIN.	AMP	VOLTS 398			
	PM.						
1-4-9	4.20	140	20	.166			
	.50	160	"	1.663			
	5.10	180	"	1.67	92.5	76	
	.30	200	"	1.68			
	.50	220	"	1.69			
	6.10	240	"	1.697	91	76.2	
	.20	260	"	1.70			
	.50	290	"	1.715			
	7.10	300	"	1.725	90.5	76.5	
	.30	320	"	1.74			
	.50	340	"	1.76			
	8.10	360	"	1.78	91.2	76.5	
	.30	380	"	1.795			
	.50	400	"	1.80			
	9.10	420	"	1.815	92.	76.5	
					(92)		
				Discharge #7			
1-4-9	PM. 9.13	—	0 Amp	1.58			
	.15	0	30	1.50			
	.17	2	"	1.405			
	.20	5	"	1.375			
	.25	10	"	1.365			
	.35	20	"	1.337			
	.45	30	"	1.319			
		40		1.305			

DATE	TIME	MIN	AMP	VOLTS	TEMP STF	TEMP FOLE
1/4/09	PM 10.15	60	30	127.5	93.5	78
	.30	80	"	125.7		
	.35	100	"	124		
	11.15	120	"	122	93.7	78
	.35	140	"	121		
	.55	160	"	120		
1/5	AM 12.15	180	"	118.5	94	77.5
	.35	200	"	117		
	.55	220	"	116.5		
	1.15	240	"	114.5	94.5	78
	.35	260	"	113		
	.45	270	"	112		
	.55	280	"	111.5		
	2.05	290	"	110.5		
	.15	300	"	109.7	95.5	77.5
	.25	310	"	108.2		
	.35	320	"	106.5		
	.45	330	"	105		
	.55	340	"	102		
	3.00½	340½	"	100		=1727

DATE	TIME	MIN	AMP	VOLTS	TEMP STF	TEMP FOLE
1/5/09			Charge		=	=
	AM 3.20	0	30	140	97.7	77.5
	.22	2	"	150		
	.25	5	"	152.2		
	.30	10	"	155		
	.40	20	"	159.7		
	.50	30	"	163		
	4.00	40	"	165		
	.20	60	"	167	98.5	77
	.40	80	"	166		
	5.00	100	"	166		
	.20	120	"	166	99.5	77
	.40	140	"	166.2		
	6.00	160	"	167		
	.20	180	"	167	99.5	77
	.40	200	"	167.7		
	7.00	220	"	168		
	.20	240	"	169	98.5	77
	.40	260	"	170.2		
	8.00	280	"	171		
	.20	300	"	172.2	99.5	77
	.40	320	"	173		
	9.00	340	"	173.2		
	.30	360	"	174	99.7	76.5
	.40	380	"	174		

DATE	TIME	MIN.	AMPS	VOLTS	TEMP 398	TEMP Kelvin	
1/5/09	AM 10.00	400	20	1.82			
	20	430	"	1.827	91.2 (91.2) +	765	
				Discharge 8			
1/5	AM 10.23 —		Open	1.58			
	10.25	0	20	1.49			
	27	2	"	1.422			
	30	5	"	1.39			
	35	10	"	1.37			
	45	20	"	1.347			
	55	30	"	1.32			
	11.05	40	"	1.315			
	25	60	"	1.277	91.7	765	
	45	80	"	1.257			
	1205	100	"	1.24			
	25	120	"	1.222	92.2	76.5	
	45	140	"	1.21			
	1.05	160	"	1.195			
	25	180	"	1.18	90	75	
	45	200	"	1.165			
	2.05	220	"	1.155			
	25	240	"	1.14	89	74.5	
	45	260	"	1.125			
	3.05	280	"	1.107			
	25	300	"	1.09	87	74.2	

DATE	Time	Min.	Amp	Volts 398	Temp 398	Temp Kelvin	
1/5/09	3.45	320	20	1.06			
	4.05	340	"	1.012			
	.05	341½	"	1.00			-170.7
				Charge #9			
	PM						
1/5/09	4.45	0	30	1.40	93	75.	
	47	2	"	1.49			
	50	5	"	1.525			
	55	10	"	1.557			
	5.05	20	"	1.60			
	15	30	"	1.622			
	25	40	"	1.62			
	45	60	"	1.647	91.7	75	
	6.05	80	"	1.66			
	25	100	"	1.652			
	45	120	"	1.637	91	75.2	
	7.05	140	"	1.66			
	25	160	"	1.657			
	45	180	"	1.665	90.5	75.5	
	8.05	200	"	1.67			
	25	220	"	1.68			
	45	240	"	1.685	90.2	75.2	
	9.05	260	"	1.69			
	25	280	"	1.707			
	45	300	"	1.715	90.5	75.5	

DATE	TIME	MIN	AMP	VOLTS	TEMP 398	TEMP Glass
	PM					
1-5-9	10.05	220	20	174		
	.25	240	"	1275		
	.45	260	"	1.50	87.2	76
	11.05	280	"	1822		
	.25	400	"	182		
	.45	420	"	184	92.5	77
					90.7	
				Discharge		
1/5	PM 11.45	—	0	1515		
	.55	0	20	145		
	.55	2	"	142.2		
	.55	6	"	1525		
	AM 12.00	10	"	137		
1/6	.10	20	"	134.2		
	.20	30	"	132		
	.30	40	"	131		
	.50	60	"	126	93	77
	1.10	80	"	125.5		
	.30	100	"	124		
	.50	120	"	123	92	77
	2.10	140	"	121		
	.30	160	"	119.7		
	.50	180	"	119	92.7	77.2
	3.10	200	"	117.5		
	.30	220	"	116.2		

DATE	TIME	MIN	AMP	VOLTS	TEMP 398	TEMP Glass
1/6/59	AM 3.50	240	30	115	94	77
	4.10	260	"	113		
	.30	280	"	111.7		
	.50	300	"	110.2	95	76.5
	5.10	320	"	107		
	.20	330	"	105.7		
	.30	340	"	103		
	.40	350	"	100		-175
1/6	" AM			Charge		10
	6.00	0	30	144	95	75
	.02	2	"	145.2		
	.05	5	"	151		
	.10	10	"	154		
	.20	20	"	157		
	.30	30	"	162.5		
	.40	40	"	165		
	7.00	60	"	163	91	75
	.20	80	"	166		
	.40	100	"	166		
	8.00	120	"	166.5	87.7	76
	.20	140	"	167		
	.40	160	"	167		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
	AM						
1/6/19	9.00	180	30	1.675	86.	75.5	
	20	200	"	1.68			
	40	220	"	1.682			
	1000	240	"	1.692	85.7	75	
	20	260	"	1.70			
	40	280	"	1.71			
	11.00	300	"	1.72	86	75.5	
	20	320	"	1.742			
	40	340	"	1.77			
	1200	360	"	1.797	86.2	76	
	20	380	"	1.82			
	40	400	"	1.845			
	100	420	"	1.850	88.7	76	
				pc			
					85.3		
				Discharge # 10			
	PM						
1-6-9	1.03	—	open	1.59			
	.05	0	30	1.509			
	.07	2	"	1.42			
	.10	5	"	1.372			
	.15	10	"	1.347			
	.25	20	"	1.34			
	.35	30	"	1.32			
	.45	40	"	1.30			
	2.05	60	"	1.275	89.5	76.2	
	.25	80	"	1.265			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
	PM						
1-6-9	2.45	100	30	1.237			
	3.05	120	"	1.22	90	76.3	
	.25	140	"	1.205			
	.45	160	"	1.197			
	4.05	180	"	1.182	89.5	76.2	
	.25	200	"	1.172			
	.45	220	"	.16			
	5.05	240	"	1.145	89	75.5	
	.25	260	"	.13			
	.45	280	"	1.115			
	6.05	300	"	1.09	88.5	75	
	.25	320	"	1.063			
	.45	340	"	1.022			
	.51	346	"	1.00			-173
				pc			
				Charge # 11			
	PM						
1-6-9	7.15	0	30	1.39	93.5	75	
	.17	2	"	1.475			
	.20	5	"	1.497			
	.25	10	"	1.525			
	.35	20	"	1.58			
	.45	30	"	1.62			
	.55	40	"	1.65			
	8.15	100	"	1.67			

Date	Time	Min	Amp	Volts 398	Temp 398	Temp chalk	
1-6-9	PM 8.35	80	30	165.7			
	.55	100	"	165.7			
	9.15	120	"	165.2	89.2	75.2	
	.35	140	"	165.7			
	.55	160	"	166			
	10.15	180	"	166.5	89.2	75.2	
	.35	200	"	167			
	.55	220	"	168			
	11.15	240	"	169	89.5	75.2	
	.35	260	"	170.2			
	AM .55	280	"	171			
1/7	12.15	300	"	173	86	76.5	
	.35	320	"	175			
	.55	340	"	176.5			
	1.15	360	"	181	86.5	74.5	
	.35	380	"	183			
	.55	400	"	185			
	2.15	420	"	186.7	87.2	73.5	
					89.5		
				Discharge			#11
1/7	AM 2.18	—	off	140			
	.20	0	30	147			
	.22	2	"	140			
	.25	5	"	139.5			
	.30	10	"	137.5			

Date	Time	Min	Amp	Volts 398	Temp 398	Temp chalk	
1/7/09	AM 2.40	20	30	134.5			
	.50	30	"	132.5			
	3.00	40	"	131			
	.20	60	"	127.7	87.5	74.2	
	.40	80	"	126			
	4.00	100	"	124			
	.20	120	"	123	88	73	
	.40	140	"	121.7			
	5.00	160	"	120.2			
	.20	180	"	119	89	73.5	
	.40	200	"	118			
	6.00	220	"	117			
	.20	240	"	115.7	91	74	
	.40	260	"	114.5			
	7.00	280	"	112.5			
	.20	300	"	111	93.2	74.5	
	.40	320	"	108			
	8.00	340	"	104.7			
	.10	350	"	103.7			
	.15	355	"	100			-177.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Adde
			Charge	# 12		
1/7/09	AM 8.40	0	30	1.422	93.7	74.5
	.42	2	"	1.47		
	.45	5	"	1.502		
	.50	10	"	1.525		
	9.00	20	"	1.575		
	.10	30	"	1.612		
	.20	40	"	1.645		
	.40	60	"	1.66	92.5	75.5
	1.00	80	"	1.655		
	.20	100	"	1.652		
	.40	120	"	1.652	89.5	74.5
	11.00	140	"	1.655		
	.20	160	"	1.662		
	.40	180	"	1.67	88	74.5
	12.00	200	"	1.675		
	.20	220	"	1.677		
	.40	240	"	1.68	88	74.5
	1.00	260	"	1.69		
	.20	280	"	1.703		
	.40	300	"	1.717	89	75
	2.00	320	"	1.722		
	.20	340	"	1.76		
	.40	360	"	1.795	90	75
	3.00	380	"	1.80		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Adde
1/7/09	PM 3.20	400	20	1.825		
	.40	420	"	1.84	92	76
					(903)	
				Discharge # 12		
1/7/09	PM 3.43	—	open	1.58		
	.45	0	30	1.50		
	.47	2	"	1.43		
	.50	5	"	1.367		
	.55	10	"	1.263		
	4.05	20	"	1.24		
	.15	30	"	1.22		
	.25	40	"	1.202		
	.45	60	"	1.177	91.7	77
	5.05	80	"	1.155		
	.25	100	"	1.137		
	.45	120	"	1.125	91.7	77
	6.05	140	"	1.121		
	.25	160	"	1.102		
	.45	180	"	1.093	92	77
	7.05	200	"	1.075		
	.25	220	"	1.165		
	.45	240	"	1.137	97	77
	8.05	260	"	1.149		
	.25	280	"	1.17		

Date	Time	Min.	Amp	Volts 398	Temp 398	Temp dbla	
	PM						
1-7-9	9.00	320	30	1.077			
	.25	240	"	1.02			
	.50	220	"	1.00			-1.75
				Charge #12			
	PM						
1-7-9	9.50	0	30	1.40	95.2	77.5	
	.52	2	"	1.45			
	.55	5	"	1.475			
	10.00	10	"	1.515			
	.10	20	"	1.57			
	.20	30	"	1.61			
	.30	40	"	1.64			
	.50	60	"	1.66	94	77	
	11.10	80	"	1.655			
	.30	100	"	1.65			
	AM .50	120	"	1.657	81.5	76.5	
1/8	12.10	140	"	1.66			
	.30	160	"	1.665			
	.50	180	"	1.665	87.5	76.5	
	1.10	200	"	1.67			
	.30	220	"	1.68			
	.50	240	"	1.69	87	76.2	
	2.10	260	"	1.697			
	.30	280	"	1.71			
	.50	300	"	1.722	87	76.7	

Date	Time	Min.	Amp	Volts 398	Temp 398	Temp dbla	
1/8/49	AM 3.10	320	30	1.74			
	.30	340	"	1.765			
	.50	360	"	1.795	87.5	75	
	4.10	380	"	1.815			
	.30	400	"	1.837			
	.50	420	"	1.85	88	74.2	
					89.3		
				Discharge #12			
1/8	AM 9.50	—	40	1.59			
	.55	0	30	1.51			
	.57	2	"	1.422			
	10.00	5	"	1.39			
	.05	10	"	1.37			
	.15	20	"	1.345			
	.25	30	"	1.322			
	.35	40	"	1.31			
	.55	60	"	1.277	87.2	73.5	
	11.15	80	"	1.26			
	.35	100	"	1.24			
	.55	120	"	1.22	77.5	72.5	
	12.15	140	"	1.215			
	.35	160	"	1.207			
	.55	180	"	1.19	88	72	
	1.15	200	"	1.18			
	.35	220	"	1.167			

DATE	TIME	MIN	AMPS	VOLTS	TEMP 398	TEMP 398	TEMP other	
1/8/09	8.56	240	20	1.15	89	73		
	9.15	260	"	1.14				
	.25	280	"	1.125				
	.55	300	"	1.105	907	73		
	10.15	320	"	1.082				
	.25	330	"	1.065				
	.35	340	"	1.045				
	.45	350	"	1.019				
	51	356	"	1.00				-178
	54½	356½	"	.999	942	73		
			Charge	14				
1/8	AM 11.10	0	20	1.462	947	735		
	.12	2	"	1.46				
	.15	5	"	1.485				
	.20	10	"	1.52				
	.30	20	"	1.57				
	.40	30	"	1.607				
	.50	40	"	1.635				
	12.10	60	"	1.657	942	75		
	.30	80	"	1.65				
	.50	100	"	1.642				
	1.10	120	"	1.65	917	76		
	.30	140	"	1.65				

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP other	
	PM.						
1-8-09	1.50	160	20	1.65			
	2.10	180	"	1.662	91	77	
	.20	200	"	1.665			
	.50	220	"	1.672			
	3.10	240	"	1.68	907	773	
	.30	260	"	1.69			
	.50	280	"	1.695			
	4.10	300	"	1.705	91	777	
	.20	320	"	1.725			
	.50	340	"	1.765			
	5.10	360	"	1.79	91	792	
	.30	380	"	1.815			
	.50	400	"	1.837			
	6.10	420	"	1.94	91	79	
					910		
	PM		Discharge	14			
1/9/09	6.13	—	off	1.525			
	.15	0	20	1.502			
	.17	2	"	1.43			
	.20	5	"	1.385			
	.25	10	"	1.362			
	.35	20	"	1.337			
	.45	30	"	1.32			
	.55	40	"	1.30			
	7.15	100	"	1.297	925	79	

DATE	TIME	MIN.	AMP.	VOLTS	TEMP. 39°	TEMP. 39° side
	PM.					
1-8-09	7.25	30	20	1.26		
	.55	100	"	1.11		
	8.15	120	"	1.23	97.7	79.2
	.35	140	"	1.15		
	.55	160	"	1.20		
	9.15	180	"	1.172	97.5	79.5
	.35	200	"	1.18		
	.55	220	"	1.167		
	10.15	240	"	1.157	97.2	79.7
	.35	260	"	1.142		
	.55	280	"	1.125		
	11.15	300	"	1.117	99.5	82.5
	.35	320	"	1.09		
	.55	340	"	1.05		
1/9	12.05	350	"	1.02		
	.15	360	"	1.00		-1.79

DATE	TIME	MIN.	AMP.	VOLTS	TEMP. 39°	TEMP. 39° side
1/9/09				Charge		
	AM					
	12.55	0	30	1.43	100	83.7
	.57	2	"	1.47		
	1.05	5	"	1.49.7		
	1.05	10	"	1.53		
	.15	20	"	1.57		
	.25	30	"	1.61		
	.35	40	"	1.637		
	.45	60	"	1.65	97	83
	2.15	80	"	1.645		
	.35	100	"	1.64		
	.55	120	"	1.642	94.5	82.5
	3.15	140	"	1.65		
	.35	160	"	1.65		
	.55	180	"	1.655	93	82
	4.15	200	"	1.662		
	.35	220	"	1.67		
	.55	240	"	1.675	91.5	81
	5.15	260	"	1.682		
	.35	280	"	1.692		
	.55	300	"	1.71	90.7	80.5
	6.15	320	"	1.72		
	.35	340	"	1.762		
	.55	360	"	1.77	90.5	80
	7.05	380	"	1.79		

DATE	TIME	MIN.	AMP	VOLTS	TEMP 3ft	TEMP 3ft	elec
1/3/09	AM 7.35	400	30	182			
	55	420	"	183	90	79.7	
				934			
				Discharge			
1/7	AM 7.55	–	1/2	139.5			
	8.00	0	30	140.2			
	.02	2	"	142.4			
	.05	5	"	139			
	.10	10	"	136			
	.12	22	"	133			
	.30	30	"	132			
	.40	40	"	130.5			
	9.00	60	"	128	91.5	79.5	
	.20	80	"	126			
	.40	100	"	124.2			
	10.00	120	"	122.5	93.5	79.7	
	.20	140	"	121.5			
	.40	160	"	120.5			
	11.00	180	"	119.2	93	80	
	.20	200	"	118			
	.40	220	"	116.7			
	PM 12.00	240	"	115	94.5	79.7	
	.20	260	"	114.7			
	.40	280	"	113.7			
	1.00	300	"	112.7	95.5	80	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 3ft	TEMP 3ft	elec
1/9/09	PM 1.20	320	30	1.08			
	.40	340	"	1.032			
	.50	350	"	1.00			÷175
	.50½	350½	"	.995	99.2	80	

Stood 41½ hours over Sunday.

1/11				Charge #12			
	AM 7.30	0	30	1.745	70	70	
	.32	2	"	1.61			
	.35	5	"	1.645			
	.40	10	"	1.66			
	.50	20	"	1.72			
	8.00	30	"	1.73			
	.10	40	"	1.73			
	.20	50	"	1.717	73.7	70	
	.50	80	"	1.705			
	9.10	100	"	1.70			
	.30	120	"	1.695	76.7	70	
	.52	142	"	1.697			
	10.16	160	"	1.70			
	.30	180	"	1.71	78.7	70	
	.50	200	"	1.72			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Idle	
1/11	AM 11.10	230	30	1.715			
	30	240	"	1.72	79.7	70	
	50	260	"	1.722			
	12.10	280	"	1.727			
	30	300	"	1.735	81.2	70.7	
	50	320	"	1.752			
	1.10	340	"	1.772			
	30	360	"	1.795	76.5	71.7	
	50	380	"	1.805			
	2.10	400	"	1.93			
	30	420	"	1.935	86.2	74.1	
					88.8		
			Drop range		16		
	PM						
1-11-09	2.32	—	off	1.692			
	35	0	30	1.505			
	37	2	"	1.92			
	40	5	"	1.89			
	45	10	"	1.87			
	55	20	"	1.84			
	3.05	30	"	1.82			
	15	40	"	1.80			
	35	60	"	1.78	90	74.2	
	55	80	"	1.76			
	4.15	100	"	1.742			
	35	120	"	1.732	89	74.7	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
1-11-09	PM. 4.55	140	30	1.717			
	5.15	160	"	1.707			
	35	180	"	1.697	89	75.2	
	55	200	"	1.685			
	6.15	220	"	1.675			
	35	240	"	1.6	90	75.5	
	55	260	"	1.65			
	7.15	280	"	1.632			
	35	300	"	1.605	91.5	76	
	55	320	"	1.077			
	8.15	340	"	1.027			
	35	360	"	1.00			-173
	55	380	"	.992			

DATE	TIME	MIN.	AMP.	VOLTS Bat	TEMP. Bat	TEMP. Cell	
				Charge # 17			
1-11-09	P.M. 8.40	0	20	147	(92)		
	.42	2	"	147			
	.45	5	"	150			
	.50	10	"	155			
	9.00	20	"	158			
	.10	30	"	163			
	.20	40	"	164.2			
	.40	60	"	166	92.5	76	
	10.00	80	"	165			
	.20	100	"	165.2			
	.40	120	"	165	94	76.5	
	11.00	140	"	164			
	.20	160	"	166.2			
	.40	180	"	166.5	90.5	78	
1/12	A.M. 12.00	200	"	167.7			
	.20	220	"	168			
	.40	240	"	169	90	78.7	
	1.00	260	"	169.5			
	.20	280	"	171			
	.40	300	"	172	89	77.5	
	2.00	320	"	174			
	.20	340	"	176.2			
	.40	360	"	179	88.2	77.5	
	3.00	380	"	181.5			

DATE	TIME	MIN.	AMP.	VOLTS Bat	TEMP. Bat	TEMP. Cell	
1/12/09	A.M. 3.20	400	30	182.5			
	.40	420	"	183.5	89.5	77.5	
				Discharge # 17			(91)
1/12	A.M. 3.42	—	1/2	158.2			
	.44	0	31	151			
	.47	2	"	145			
	.50	5	"	137.7			
	.55	10	"	137			
	4.05	20	"	134			
	.15	30	"	132.5			
	.25	40	"	131			
	.45	60	"	127	90	77.5	
	5.05	80	"	126			
	.25	100	"	125			
	.45	120	"	123.5	90.5	77	
	6.05	140	"	122.5			
	.25	160	"	121.5			
	.45	180	"	121.2	91.2	77.2	
	7.05	200	"	119			
	.25	220	"	117			
	.45	240	"	115	90.5	77	
	8.05	260	"	113.7			
	.25	280	"	112.5			
	.45	300	"	111.2			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 39 8	TEMPS 39 8 Idle	
	AM						
1/12/09	9.05	320	30	1.09	92	77	
	25	340	"	1.042			
	31	346	"	1.027			
	35	250	"	1.007			
	37	352	"	1.00			-176
				Charge	18		
1/12/09	9.55	0	30	1.412			
	57	2	"	1.46			
	1000	5	"	1.485			
	05	10	"	1.52			
	15	20	"	1.575	92.2	77	
	25	30	"	1.62			
	35	40	"	1.65			
	55	60	"	1.66	91.2	77	
	11 15	80	"	1.655			
	35	100	"	1.652			
	55	120	"	1.657	89	77	
	12 15	140	"	1.66			
	37	162	"	1.662			
	55	180	"	1.662	87.7	76.7	
	1.15	200	"	1.677			
	35	220	"	1.69			
	55	240	"	1.692	87	76.2	

DATE	TIME	MIN	AMPS	VOLTS 39 8	TEMP 39 8	TEMP Idle	
	PM.						
1-12-09	2.15	260	20	1.70			
	35	280	"	1.71			
	55	300	"	1.725	86.5	76	
	3.15	320	"	1.745			
	35	340	"	1.782			
	55	360	"	1.802	87	76	
	4.15	380	"	1.82			
	35	400	"	1.84			
	55	420	"	1.84	87.2	76	
					88.6		
				Discharge			
	PM.						
1-11-	4.52	-	o/ny	1.685			
	5.00	0	20	1.60			
	02	2	"	1.425			
	05	5	"	1.39			
	10	10	"	1.37			
	20	20	"	1.34			
	30	30	"	1.325			
	40	40	"	1.31			
	5.00	60	"	1.297	87.7	76	
	20	80	"	1.26			
	40	100	"	1.24			
	7.00	120	"	1.227	89	76	
	20	140	"	1.219			
	40	160	"	1.205			

DATE	TIME	MIN.	AMP	VOLTS 298	TEMP 298	TEMP alder	
	PM.						
1-12-	800	180	20	1.195	90	762	
	.20	200	"	1.187			
	.40	220	"	1.175			
	9.00	240	"	1.16	91.5	762	
	.20	260	"	1.15			
	.40	280	"	1.135			
	10.00	300	"	1.115	93	767	
	.20	320	"	1.087			
	.40	340	"	1.047			
	.53	353	"	1.00			= 1746.5
				Discharge			= 19
1/12	PM 11.15	0	30	141.7	91.5	78.5	
	.17	2	"	1.46			
	.20	5	"	149			
	.25	10	"	152			
	.35	20	"	1.575			
	.45	30	"	161.5			
	.55	40	"	164			
1/13	12.15 AM	60	"	165	94	73.2	
	.35	80	"	164.5			
	.55	100	"	164.2			
	1.15	120	"	165	90.5	78.5	

DATE	TIME	MIN.	AMP	VOLTS 298	TEMP 298	TEMP alder	
	AM						
1/13/49	1.35	141	30	165			
	1.55	160	"	1.557			
	2.15	180	"	166.2	89	78.5	
	.35	200	"	167			
	.55	220	"	168			
	3.15	240	"	1.585	87.5	77.2	
	.35	260	"	1.597			
	.55	280	"	171			
	4.15	300	"	172.5	86.5	77	
	.35	320	"	173.5			
	.55	340	"	176.2			
	5.15	360	"	179	86	76	
	.35	380	"	182			
	.55	400	"	184			
	6.15	420	"	185	87	75	
					90.4		
				Discharge			= 19
1/13	AM 6.18	—	5/—	159			
	.20	0	30	151			
	.22	2	"	142.2			
	.25	5	"	139			
	.30	10	"	137			
	.40	20	"	134			
	.50	30	"	132.2			
	7.00	40	"	131			

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP Idle	
1/2/1	7.20	60	30	1.28	91.5	74	
	.40	80	"	1.232			
	8.00	100	"	1.24			
	.20	120	"	1.227	76	74	
	.40	140	"	1.215			
	9.00	160	"	1.205			
	.20	180	"	1.192	86.5	74	
	.40	200	"	1.185			
	10.00	220	"	1.17			
	.20	240	"	1.162	87	74	
	.40	260	"	1.142			
	11.00	280	"	1.13			
	.20	300	"	1.11	88.5	74.5	
	.40	320	"	1.08			
	.50	330	"	1.062			
	12.00	340	"	1.04			
	.10	350	"	1.012			
	13	352	"	1.00	91	75	176.5
				Charge 20			
	PM						
1/13	12.25	0	30				
	.55	30	"		92	75	
	2.55	150	"		97	75.2	
	4.55	270	"		95.5	75.5	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP Idle	
1/13	6.55	390	30		89	75	
	8.55	510	"		93	76	
	10.55	630	"		94.5	77.2	
	12.55	750	"		94.5	77	
	2.55	870	"		94	75.5	
	3.25	900	"	1.45			
				91.2			− 15 hrs.
1/14	A.M.			Discharge			20
	3.25	−	30	160			
	1.30	0	30	151			
	1.32	2	"	144			
	1.35	5	"	141			
	1.40	10	"	138.2			
	1.50	20	"	136			
	2.00	30	"	134			
	1.10	40	"	132.2			
	1.20	60	"	129.7	91.5	74.5	
	1.30	80	"	127			
	5.10	100	"	126			
	1.50	120	"	124.5	91	74.5	
	2.10	140	"	123			
	6.10	160	"	122			
	1.30	180	"	121	91.2	74.2	
	1.50	200	"	120.2			
	7.10	220	"	119			

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS Solo	
1/4/09	AM 7.20	240	20	118	90.5	74.5	
	.50	260	"	117			
	8.10	280	"	1155			
	.30	300	"	114	90.5	73.5	
	.50	320	"	1125			
	9.10	340	"	1.107			
	.30	360	"	1.082	90	74.	
	.50	380	"	1.067			
	10.05	395	"	1.057			
	.10	400	"	1.022			
	.15	405	"	1.015			
	.20	410	"	1.00			-205
	.25	415	"	.987			
	.30	420	"	.965	93	73.7	
	.35	425	"	.94			
	.40	430	"	.92			
	.45	435	"	.90			
	.50	440	"	.875			
	.55	445	"	.847			
	11.00	450	"	.782			
	.05	455	"	.67			
	.06½	456½	"	.50			-228.2

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solo	
			Charge			#21	
11/4/09	AM 11.55	0	30				
	PM 12.25	30	"		94.5	73.7	
	2.25	150	"		92.2	75	
	4.25	270	"		92.2	75.2	
	6.25	390	"		92.5	75.5	
	8.25	510	"		92	76.2	
	10.25	630	"		94.7	76.2	
1/5	AM 12.25	750	"		92.7	74	
	2.25	870	"		95	74.5	
	5.5	900	"	144.5			
				(94.7)			
			Discharge			#21	
1/5	AM 2.55	—	30	150			
	3.00	0	30	151			
	3.02	2	"	143			
	3.05	5	"	140			
	3.10	10		138			
	3.20	20		135			
	3.30	30		133			
	3.42	42	"	132			
	4.00	60	"	128	92	73.2	
	4.20	80	"	126			
	4.40	100	"	124.5			
	5.00	120	"			73	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP elder	
8/10/95	5:20	140	30	1222			
	40	150	"	1212			
	6:00	160	"	1202	90	73	
	20	200	"	1195			
	40	220	"	1185			
	7:00	240	"	1175	87.2	73	
	20	260	"	1165			
	40	280	"	116			
	8:00	300	"	114	89	72.5	
	20	320	"	1122			
	40	340	"	1112			
	9:00	360	"	1092	91.2	72	
	20	380	"	1072			
	30	390	"	1061			
	40	400	"	1042			
	50	410	"	1022			
	57	417	"	1.00			-208.5
	10:00	420	"	1.952	94.7	72	
	10	430	"	1.932			
	20	440	"	1.817			
	27	447	"	1.50			-223.5

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP elder	DEG. ABOVE 1000
	AM			Charge 22			
8/29	11:35	0	30	1.52	94.7	73	21.7
	37	2	"	1.555			- Outlet, 420
	40	5	"	1.562			
	45	10	"	1.582			
	55	20	"	1.617			
	1:05	30	"	1.64			
	15	40	"	1.658			
	25	50	"	1.665			
	35	60	"	1.677	92.7	74.2	19.5
	55	80	"	1.67			
	1:15	100	"	1.662			
	35	120	"	1.656	90.5	74.5	16
	55	140	"	1.662			
	2:15	160	"	1.662			
	35	180	"	1.667	89.5	75	14.5
	55	200	"	1.672			
	3:15	220	"	1.675			
	35	240	"	1.68	88.5	76	12.5
	55	260	"	1.682			
	4:15	280	"	1.69			
	35	300	"	1.697	87.7	77	10.7
	55	320	"	1.70			
	5:15	340	"	1.702			
	35	360	"	1.707	87.2	77.2	10.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Wilder	DEG. ABOVE 1515
	PM						
1-15-09	5.55	280	20	173			
	6.15	400	"	175			
	.35	420	"	177	92.3	77.2	16.1
	.55	440	"	179.7			
	7.15	460	"	180.5			
	.35	480	"	182.7	89.2	77.2	12
	.55	500	"	185.2			
	8.15	520	"	184.7			
	.35	540	"	184.7	91	77.5	13.5
	.55	560	"	184.5			
	9.15	580	"	184.5			
	.35	600	"	185	92.5	77.5	15
	.55	620	"	185			
	10.15	640	"	184.2			
	.35	660	"	184.2	93.7	77.5	16.2
	.55	680	"	184.2			
	11.15	700	"	184			
	.35	720	"	184.2	94.5	78.5	16
	.55	740	"	184			
1/16	12.15 PM	760	"	184.1			
	.35	780	"	183.7	96	79	17
	.55	800	"	183.7			
	1.15	820	"	184			
	.35	840	"	184	96	78.7	17.3
	.55	860	"	184.1			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Wilder	DEG. ABOVE 1515
1/16/09	AM 2.15	880	20	184			
	.35	900	"	184.2	95	77.7	17.3
					96.7		
				Drinking			22
1/16	AM 2.35	—	20	184			17.3
	.55	0	20	181			
	3.15	20	"	182.2			
	.35	40	"	179			
	.55	60	"	177			
	4.15	80	"	175			
	.35	100	"	173			
	.55	120	"	133			
	5.15	140	"	131.5	92.7	76.5	16.2
	.35	160	"	128.2			
	.55	180	"	127	92	75.5	16.5
	6.15	200	"	125			
	.35	220	"	123	90	75.5	16.5
	.55	240	"	122			
	7.15	260	"	121	88.5	74.5	13
	.35	280	"	120.2			
	.55	300	"	119.5	92	74	18
	8.15	320	"	118.5			
	.35	340	"	117	88.5	74	14.5
	.55	360	"	116			
	9.15	380	"	115	89	73	16
	.35	400	"	114			

DATE	TIME	MIN	AMPS	VOLTS 39r	TEMP 39r	TEMP IDEAL	DEG ABOVE IDEAL	
1/16/09	AM. 1.35	320	30	112.5	89	73	16	
	.40	340	"	111				
	.40	360	"	1.092	89.7	73	16.7	
	9.00	380	"	1.07				
	.10	390	"	1.055				
	.30	410	"	1.04	92.2	73	19.2	
	.35	415	"	1.017				
	.35	416	"	1.00				-206
	.40	420	"	.98				
	.50	430	"	.902				
	10.00	440	"	.597				
	.03	443	"	.50	96	73	23	-221.5
				0			0	

Stood 52½ hours over Sunday.

DATE	TIME	MIN	AMPS	VOLTS 39r	TEMP 39r	TEMP Sol.
1/18/09	AM.			Charge		23
	4.30	0	30	163	71.5	74.5
	.32	2	"	165		
	.35	5	"	166.5		
	.40	10	"	168		
	.50	20	"	170.5		
	5.00	30	"	172		
	.10	40	"	172.2		
	.30	60	"	170	77	72.5
	.50	80	"	169		
	6.10	100	"	168.2		
	.30	120	"	168.5	80.5	73
	.50	140	"	168.2		0
	7.10	160	"	168.2		
	.30	180	"	169	81.5	73.5
	.50	200	"	169		
	8.10	220	"	169.5		
	.30	240	"	169.7	83	73.2
	.50	260	"	170		
	9.10	280	"	170.7		
	.30	300	"	170.7	83.7	73.2
	.50	320	"	171.5		
	10.10	340	"	172.2		
	.30	360	"	173	84	73
	.50	380	"	174		

DATE	TIME	MIN.	AMP.	VOLTS 398°	TEMP 398°	0°Cl	
	PM						
1-18-09	1.10	400	30	1.76			
	.20	420	"	1.777	86	73.2	
					159		
			Discharge # 23				
	AM						
1-19-09	11.30	–	open	1.52			
	.35	0	30	1.50			
	.37	2	"	1.422			
	.40	5	"	1.375			
	.45	10	"	1.362			
	.55	20	"	1.337			
	PM						
	12.05	30	"	1.318			
	.15	40	"	1.30			
	.35	60	"	1.28	85.7	72.7	
	.55	80	"	1.26			
	1.15	100	"	1.242			
	.35	120	"	1.23	84.7	74	
	.55	140	"	1.22			
	2.15	160	"	1.205			
	.35	180	"	1.195	87.7	74.2	
	.55	200	"	1.192			
	3.15	220	"	1.18			
	.35	240	"	1.17	90.5	75	
	.55	260	"	1.16			
	4.15	280	"	1.145			
	.35	300	"	1.127	92	76	

DATE	TIME	MIN	AMP	VOLTS 398°	TEMP 398°	0°Cl	
	PM						
1/18/09	4.55	330	30	1.097			
	5.15	340	"	1.057			
	.20	345	"	1.02			
	.22½	347½	"	1.00	93.	77.	173.7
			Charge # 24				
1/18	PM 5.30	0	30	1.40	93.2	77	
	.32	2	"	1.48			
	.35	5	"	1.512			
	.40	10	"	1.542			
	.50	20	"	1.59			
	6.00	30	"	1.627			
	.10	40	"	1.65			
	.30	60	"	1.66	94.2	77.5	
	.50	80	"	1.652			
	7.10	100	"	1.652			
	.30	120	"	1.65	9.17	78	
	.50	140	"	1.65			
	8.10	160	"	1.655			
	.30	180	"	1.66	9.0	78	
	.50	200	"	1.665			
	9.10	220	"	1.677			
	.30	240	"	1.682	99.5	78	
	.50	260	"	1.697			

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMP 39.8	TEMP bulk
1/18/09	PM 10.10	280	30	170		
	.20	300	"	172	89.	77.7
	.30	320	"	174		
	11.10	340	"	176		
	.20	360	"	178	90.	78
	.30	380	"	179		
1/19	AM 12.10	400	"	180		
	.20	420	"	181	90.5	77.5
					(91)	
				Discharge		24
1/19	AM 12.22	—	5	1882		
	.25	0	30	1505		
	.27	2	"	1410		
	.32	5	"	138		
	.45	10	"	137		
	.55	20	"	133		
	1.05	30	"	132.5		
	.15	40	"	130		
	.25	50	"	127.7	90	76.5
	.35	60	"	126.7		
	2.15	100	"	124.2		
	.35	120	"	122.5	89	75.5
	.55	140	"	120.7		
	3.15	180	"	120.5		
	.35	200	"	119.7	88	75

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMP 39.8	TEMP bulk
1/19/09	AM 3.55	200	30	119		
	4.15	220	"	118.2		
	.35	240	"	117.	89.2	75
	.55	260	"	116.		
	5.15	280	"	114.5		
	.35	300	"	113	92	75
	.55	320	"	111.5		
	6.15	330	"	110.2		
	.35	350	"	109.		
	.35	360	"	108.2	92	74.5
	.45	365	"	100		-182.5
1/19				Charge		25
	AM 6.50	0	30	142	92.5	74.2
	.52	2	"	147.7		
	.55	5	"	150		
	7.00	10	"	153		
	.10	20	"	154.1		
	.20	30	"	162		
	.30	40	"	165		
	.50	60	"	165	92	74.5
	8.10	80	"	165		
	.30	100	"	165		

DATE	TIME	MIN.	AMP.	VOLTS Zns.	TEMP Zns	TEMP Udka.
1-19-09	8.50	120	20	1.645	90	75
	9.10	140	"	1.669		
	.30	160	"	1.655		
	.50	180	"	1.66	89.2	75
	10.10	200	"	1.669		
	.30	220	"	1.675		
	.50	240	"	1.68	87.5	75
	11.10	260	"	1.69		
	.30	280	"	1.702		
	.50	300	"	1.719	88	75
	PM 12.10	320	"	1.714		
	.30	340	"	1.76		
	.50	360	"	1.779	89.2	76.2
	1.10	380	"	1.812		
	.30	400	"	1.822		
	.50	420	"	1.827	90.5	76.5
					(89.6)	
				Discharge		2.5
1/19/	PM 1.53	—	open	1.582		
	.55	0	20	1.505		
	.57	2	"	1.412		
	2.00	.5		1.382		
	.05	10	"	1.367		
	.15	20	"	1.337		
	.25	30	"	1.332		

DATE	TIME	MIN.	AMP	VOLTS Zns	TEMP Zns	TEMP Udka
1/19/08	PM 2.35	40	20	1.307		
	.55	60	"	1.29	90.5	76.2
	3.15	80	"	1.25		
	.35	100	"	1.249		
	.55	120	"	1.237	91	76.2
	4.15	140	"	1.225		
	.35	160	"	1.218		
	.55	180	"	1.21	91	76
	5.15	200	"	1.207		
	.35	220	"	1.19		
	.55	240	"	1.18	92	76
	6.15	260	"	1.165		
	.35	280	"	1.15		
	.55	300	"	1.132	92.2	76
	7.15	320	"	1.11		
	.35	330	"	1.10		
	.35	340	"	1.082		
	.45	350	"	1.057		
	.55	360	"	1.037	94.7	76
	8.00	365	"	1.01		
	.02	367	"	1.00		-183.5

DATE	TIME	MIN.	AMP	VOLTS	TEMP. 292	TEMP. 282
				Charge # 26		
1/19/09	PM 8 15	0	30	1.405	97.	76
	17	2	"	1.462		
	20	5	"	1.475		
	25	10	"	1.51		
	35	20	"	1.572		
	45	30	"	1.595		
	55	40	"	1.615		
	9.15	60	"	1.65	95.5	76
	35	80	"	1.642		
	55	100	"	1.642		
	10 15	120	"	1.642	97.5	76
	35	140	"	1.645		
	55	160	"	1.647		
	11.15	180	"	1.65	91.2	76.7
	35	200	"	166		
	55	220	"	166		
1/20	AM 12.15	240	"	168	89.5	76.2
	35	260	"	1.685		
	55	280	"	170		
	1.15	300	"	171.7	88	75.5
	35	320	"	173		
	55	340	"	175		
	2.15	360	"	178	90	74.5
	35	380	"	1.802		

DATE	TIME	MIN.	AMP	VOLTS	TEMP. 292	TEMP. 282
1/20/09	AM 2.55	400	30	182		
	3.15	420	"	183	89	74.5
					91.7	
				Discharge # 26		
1/20	AM 2.15	—	0 Amp	159		
	20	0	30	150		
	22	—	"	142.5		
	25	5	"	138.5		
	30	10	"	137		
	40	20	"	134		
	50	30	"	133		
	4.00	40	"	130.5		
	20	60	"	128	89.5	75
	40	80	"	126		
	5.00	100	"	124.5		
	20	120	"	123	89.2	74.7
	40	140	"	122		
	6.00	160	"	121		
	20	180	"	120	88.2	74.5
	40	200	"	119		
	7.00	220	"	118.5		
	20	240	"	117	87.5	74.5
	40	260	"	116.2		
	8.00	280	"	115		
	20	300	"	113	91.7	74.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle	
1/20/09	AM 8.40	320	30	111			
	900	340	"	1.09			
	.10	350	"	1.06			
	.20	360	"	1.022			
	.25	365	"	1.002			
	25½	365½	"	1.00			-1827
				Charge = 27			
1-20-09	AM 1.030	0	10	1.34	90.7	75.2	
	.34	4	"	1.40			
	.40	10	"	1.412			
	.50	20	"	1.427			
	11.00	30	"	1.442			
	.10	40	"	1.46			
	.30	60	"	1.492	97	76	
	.50	80	"	1.512			
	PM 12.10	100	"	1.525			
	.20	120	"	1.55	95.5	74.5	
	.50	140	"	1.575			
	1.10	160	"	1.59			
	.30	180	"	1.592	84.5	78	
	.51	201	"	1.595			
	2.10	220	"	1.595			
	.30	240	"	1.595	84	78	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle	
1/20/09	PM 2.50	260	10	1.592			
	3.10	280	"	1.59			
	.30	300	"	1.59	93	78.2	
	.50	320	"	1.59			
	4.10	340	"	1.592			
	.30	360	"	1.59	82.5	78.5	
	.50	380	"	1.59			
	5.10	400	"	1.59			
	.30	420	"	1.59	82	79	
	.50	440	"	1.59			
	6.10	460	"	1.59			
	.30	480	"	1.59	81.7	79	
	.50	500	"	1.59			
	7.10	520	"	1.59			
	.30	540	"	1.59	81	78.7	
	.50	560	"	1.591			
	8.10	580	"	1.592			
	.30	600	"	1.592	80	78.2	
	.50	620	"	1.592			
	9.10	640	"	1.595			
	.30	660	"	1.597	80.2	78.2	
	.50	680	"	1.605			
	10.10	700	"	1.605			
	.30	720	"	1.602	80.5	78.5	
	.50	740	"	1.60			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Table	
1/20/09	PM 11:10	760	30	1205			
	1:30	720	"	161	81.5	79	
	1:50	800	"	161			
1/21	AM 12:10	820	"	161.7			
	1:30	840	"	162	81	79.7	
	1:50	860	"	162.2			
	2:10	880	"	162.5			
	2:30	900	"	163	80.5	79	
	2:50	920	"	164			
	3:10	940	"	164			
	3:30	960	"	165	79.2	77.5	
	3:50	980	"	165			
	4:10	1000	"	166			
	4:30	1020	"	166	78.5	76.2	
	4:50	1040	"	167.7			
	5:10	1060	"	168			
	5:30	1080	"	168.2	78.2	75.5	
	5:50	1100	"	169			
	6:10	1120	"	170			
	6:30	1140	"	170.2	78	75.5	
	6:50	1160	"	171			
	7:10	1180	"	171			
	7:30	1200	"	171.5	78	75	
	7:50	1220	"	172			
	8:10	1240	"	172			

DATE	TIME	MIN	AMB	VOLTS 398	TEMP 398	Table	
1/21/09	AM 7:30	1260	70	173	78	75	-21. hrs. @ 10
					(81.6)		
				@ recharge			23
1/21	AM 7:33	—	0 after	155.5			
	7:35	0	30	150			
	7:37	2	"	141			
	7:40	5	"	135.5			
	7:45	10	"	133.5			
	7:55	20	"	131			
	8:05	30	"	129.5			
	8:15	40	"	128			
	8:35	60	"	126	81.2	74.2	
	8:55	80	"	124.2			
	9:15	100	"	123			
	9:35	120	"	122	83.7	74.2	
	9:55	140	"	121.2			
	10:15	160	"	120			
	10:35	180	"	119.8	86	74	
	10:55	200	"	119.2			
	11:15	220	"	118			
	11:35	240	"	117.2	87	74	
	11:55	260	"	116			
	12:15	280	"	115.2			
	12:35	300	"	115	91	74	
	12:55	320	"	113			

DATE	TIME	MIN.	AMP	VOLTS 394	TEMP. 392	TEMP. 393	
1/21/09	PM 1.15	340	30	1.05			
	.25	360	"	1.05	922	74	
	.45	370	"	1.02			
	.49	374	"	1.00			-197
				Change #28			
1-21-09	PM 2.00	0	10	1.29	95	74	
	.02	2	"	1.325			
	.05	5	"	1.359			
	.10	10	"	1.37			
	.20	20	"	1.395			
	.30	30	"	1.415			
	.40	40	"	1.432			
	.50	50	"	1.442	90	73	
	.70	80	"	1.495			
	.40	100	"	1.52			
	4.00	120	"	1.537	88	75	
	.20	140	"	1.56			
	.40	160	"	1.58			
	5.00	180	"	1.59	85.7	75.5	
	.20	200	"	1.592			
	.40	220	"	1.595			
	6.00	240	"	1.592	83.5	75.7	
	.20	260	"	1.59			
	.40	280	"	1.59			

DATE	TIME	MIN.	AMP	VOLTS 393	TEMP 392	TEMP 394
1/21/09	PM 7.00	300	10	1.59	827	76
	.20	320	"	1.59		
	.40	340	"	1.59		
	8.00	360	"	1.59	82	76
	.20	380	"	1.587		
	.40	400	"	1.587		
	9.00	420	"	1.587	81.5	762
	.20	440	"	1.585		
	.40	460	"	1.585		
	10.00	480	"	1.585	81	765
	.20	500	"	1.587		
	.40	520	"	1.59		
	11.00	540	"	159	81.2	78
	.20	560	"	159		
	.40	580	"	159.7		
1-22	AM 12.00	600	"	159	81	78
	.20	620	"	159.7		
	.40	640	"	160		
	1.00	660	"	160	78.7	76.5
	.20	680	"	160.5		
	.40	700	"	160.5		
	2.00	720	"	161	79	77
	.20	740	"	161		
	.40	760	"	161		
	3.00	780	"	161	79	77

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Dale	
1/22/09	AM 7.20	800	10	161.5			
	.40	820	"	161.7			
	4.00	840	"	162	79	77	
	.20	860	"	162.5			
	.40	880	"	163			
	5.00	900	"	163.5	79	77	
	.20	920	"	164.2			
	.40	940	"	164			
	6.00	960	"	164.5	78.7	76.7	
	.20	980	"	165			
	.40	1000	"	165.5			
	7.00	1020	"	166.2	78	76.2	
	.20	1040	"	167			
	.40	1060	"	167			
	8.00	1080	"	167.2	78	75.5	
	.20	1100	"	169			
	.40	1120	"	169			
	9.00	1140	"	170	78	75.2	
	.20	1160	"	170.5			
	.40	1180	"	170.5			
	10.00	1200	"	171.7	78	75.2	
	.20	1220	"	172			
	.40	1240	"	172			
	11.00	1260	"	172	78.2	75.5	-21 lbs @ 10
					78.6		

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Dale	
				Discharge #8			
1/22/09	PM 11.03	-	40 amp	1.58			
	.05	0	30	1.50			
	.07	2	"	1.40			
	.10	5	"	1.357			
	.15	10	"	1.337			
	.25	20	"	1.315			
	.35	30	"	1.30			
	.45	40	"	1.285			
	PM 12.05	60	"	1.26	84.5	76	
	.25	80	"	1.245			
	.45	100	"	1.235			
	1.05	120	"	1.22	87.2	76.2	
	.25	140	"	1.21			
	.45	160	"	1.20			
	2.05	180	"	1.19	87.7	76.2	
	.25	200	"	1.18			
	.45	220	"	1.172			
	3.05	240	"	1.167	87.7	74.5	
	.25	260	"	1.155			
	.45	280	"	1.137			
	4.05	300	"	1.117	91	74	
	.25	320	"	1.097			
	.35	330	"	1.083			
	.45	340		1.067			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Cold		
1/22/09	PM 4.55	350	70	1.057				
	5.00	355	"	1.045				
	.05	360	"	1.037	94	74		
	.10	365	"	1.022				
	.15	370	"	1.00			-185	

Charge 29

DATE	TIME	MIN.	AMP	VOLTS 398	7e	9ii	TEMP 398	TEMP Cold	
1/22/09	PM 5.35	0	10	1.317	1.37	.062	94.2	74	Electrode 105 g 260 ml 1 : 5.6
	.37	2	"	1.362	1.40	.047			
	.40	5	"	1.371	1.41	.045			
	.45	10	"	1.381	1.412	.037			
	.55	20	"	1.397	1.417	.025			
	6.05	30	"	1.417	1.425	.01			
	.15	40	"	1.444	1.432	.005			
	.35	60	"	1.447	1.45	.017	88	74	
	.55	80	"	1.502	1.465	.022			
	7.15	100	"	1.527	1.475	.042			
	.35	120	"	1.55	1.485	.052	85	74	
	.55	140	"	1.57	1.492	.062			
	8.15	160	"	1.586	1.502	.071			
	.35	180	"	1.595	1.51	.075	85	75	
	.55	200	"	1.599	1.51	.078			
	9.15	220	"	1.597	1.51	.077			

DATE	TIME	MIN.	AMP	VOLTS 398	7e	9ii	TEMP 398	TEMP Cold	
1/22/09	PM 9.35	240	10	1.595	1.506	.078	84	80 75.5	
	.55	260	"	1.593	1.502	.077			
	10.10	275	"	1.591	1.50	.077			
	.35	300	"	1.59	1.50	.077	83	76	
	.55	320	"	1.59	1.497	.08			
	11.15	340	"	1.592	1.492	.081			
	.35	360	"	1.586	1.49	.08	82.7	77	
	.55	380	"	1.59	1.49	.081			
	12.15	400	"	1.586	1.49	.08			
	.35	420	"	1.59	1.491	.081	82.5	78	
	.55	440	"	1.59	1.491	.081			
	1.15	460	"	1.59	1.491	.081			
	.35	480	"	1.59	1.491	.09	82	78	
	.55	500	"	1.59	1.491	.09			
	2.15	520	"	1.59	1.49	.09			
	.35	540	"	1.591	1.491	.091	82.5	77.5	
	.55	560	"	1.591	1.491	.091			
	3.15	580	"	1.591	1.491	.091			
	.35	600	"	1.59.9	1.492	.10	80	77.7	
	.55	620	"	1.59.9	1.492	.101			
	4.15	640	"	1.60	1.492	.101			
	.35	660	"	1.60	1.492	.101	79.5	77.5	
	.55	680	"	1.602	1.492	.111			
	5.15	700	"	1.602	1.492	.111			
	.35	720	"	1.602	1.492	.111			

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS 7c	VOLTS 7N	TEMPS 398	TEMPS Idle
1/23/29	5:55 AM	740	10	161	147	11.9		
	6:15	760	"	161	147.7	12		2.7
	1:00	800	"	161	146.6	12.1	79.7	77
	[illegible]	808	"	161.5	146.5	12.2		
	7:00	820	"	161.7	147.7	12.6		
	1:00	860	"	162	147	12	79.5	2.5 77
	[illegible]	[illegible]	"	162.1	147	13		
	8:15	880	"	162	147.2	13.6		
	8:35	900	"	162.2	148	14	79	2 77
	8:55	920	"	162.2	148	14.1		
	9:15	940	"	162	148	14.5		
	9:35	960	"	162	148	14.5	79.2	2.2 77
	9:55	980	"	162	148.2	15.7		
	10:15	1000	"	162	148.9	15.7		1.8
	10:35	1020	"	162	149.7	16	78.5	77
	10:55	1040	"	162	149.3	16.2		
	11:15	1060	"	162.3	149.5	16.5		
	11:35	1080	"	162.2	149.7	17.7	78.7	2.2 76.5
	11:55	1100	"	162.2	149.8	17.7		
	12:15 PM	1120	"	162.5	150.2	17.7		
	12:35	1140	"	162.7	150.5	18.2	78.7	2.2 75.5
	12:55	1160	"	162.5	151.2	18.2		
	1:15	1180	"	162.7	151.7	18		
	1:35	1200	"	162.5	151.8	18	78.7	2.5 75.2
	1:55	1220	"	162.5	152.2	18.2		

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS 8c	VOLTS N.I.	TEMP 398	TEMP Idle
1-23-29	2:15 PM	1240	30	1.719	152.2	.18		1.918
	2:35	1260	"	1.719	152.2	181	79	75.2
							(81.7)	
				398	399	Idle		

Discharge 29

1-23	2:38 PM	—	0	open	1.577			
	2:40	0	30		1.48			
	42	2	"		1.39			
	45	5	"		1.35			
	50	10	"		1.332			
	3:00	20	"		1.312			
	10	30	"		1.29			
	20	40	"		1.279			
	40	60	"		1.257	83	76.5	
	4:00	80	"		1.245			
	20	100	"		1.232			
	40	120	"		1.22	87	76.5	
	5:00	140	"		1.21			
	20	160	"		1.20			
	40	180	"		1.19	90	77	
	6:00	200	"		1.18			
	20	220	"		1.17			
	40	240	"		1.16	92.5	77	
	7:00	260	"		1.147			
	20	280			1.132			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Solu	
1/23/09	PM 7.40	300	30	1.117	94.7	77	
	8.00	320	"	1.102			
	20	340	"	1.077			
	30	350	"	1.06			
	40	360	"	1.032			
	45	365	"	1.017			
	50	370	"	1.005			
	52	372	"	1.00	97.5	77	-186
Stood	Idle	over	Sunday,	27 hrs.			
			Charge	00			
1/24/09	PM 11.30	0	20		67.5	67.2	
1/25	AM 12.30	60	"		71.7	68.5	
	1.30	120	"		73.5	69.2	
	2.30	180	"		74.7	69.7	
	3.30	240	"		76.5	70.5	
	4.30	300	"		77.7	71.2	
	5.30	360	"		80	72.5	
	6.30	420	"		80.2	73	
	7.30	480	"		80.7	73	
	8.30	540	"		79.5	71.5	
	9.30	600	"		80.2	72.5	
	10.00	630	"	1.797			-102 lbs. @ 20
				(7.47)			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Solu	
			Discharge	20			
1/25/09	AM 10.03	—	open	1.58	81	72.5	
	10.05	0	30	1.487			
	07	2	"	1.415			
	10	5	"	1.38			
	15	10	"	1.357			
	25	20	"	1.335			
	35	30	"	1.307			
	45	40	"	1.297			
	11.05	60	"	1.275	83.7	72.5	
	25	80	"	1.262			
	45	100	"	1.242			
	12.05	120	"	1.232	85.7	72.5	
	25	140	"	1.22			
	45	160	"	1.21			
	1.05	180	"	1.20	86.2	73	
	25	220	"	1.19			
	45	220	"	1.18			
	2.05	240	"	1.17	88	73	
	25	260	"	1.158			
	45	280	"	1.14			
	3.05	300	"	1.127	89.5	72.5	
	25	320	"	1.110			
	45	340	"	1.077			
	55	350	"	1.057			
	4.05	360	"	1.027	92.2		
	15	370	"	1.00	93	73	-185

Charge 31

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle
	PM					
1/25/09	4.30	0	20	1.35	93	73
	.32	2	"	1.41		
	.35	5	"	1.425		
	.40	10	"	1.452		
	.50	20	"	1.49		
	5.00	30	"	1.53	92	73
	.10	40	"	1.545		
	.30	60	"	1.61	922	73
	.50	80	"	1.63		
	6.00	90	"		892	73
	.10	100	"	1.632		
	.30	120	"	1.622	887	73
	.50	140	"	1.617		
	7.00	150	"		875	73
	.10	160	"	1.617		
	.30	180	"	1.622	86.5	735
	.50	200	"	1.622		
	8.00	210	"		86	737
	.10	220	"	1.62		
	.30	240	"	1.62	855	74
	.50	260	"	1.62		
	9.00	270	"		85	74
	.10	280	"	1.62		
	.30	300	"	1.625	847	745

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle
	PM					
1/25/09	9.50	320	20	1.632		
	10.00	330	"		845	75
	.10	340	"	1.637		
	.30	360	"	1.645	84	752
	.50	380	"	1.65		
	11.00	390	"		82.5	75.5
	.10	400	"	1.67		
	.30	420	"	1.675	82.2	75.2
	.50	440	"	1.69		
1/26	AM 12.00	450	"		827	72
	.10	460	"	1.69		
	.30	480	"	1.705	81	75
	.50	500	"	1.717		
	1.00	510	"		80	73.5
	.10	520	"	1.73		
	.20	540	"	1.741	80.5	73.7
	.50	560	"	1.757		
	2.00	570	"		81.5	74.2
	.10	580	"	1.77.7		
	.30	600	"	1.79	82	74.5
	.50	620	"	1.77.7		
	3.00	630	"	1.80	82.2	74.5

= 10½ hrs. @ 20

85.1

DATE	TIME	MIN	AMPS	VOLT 32F	TEMP 32F	TEMP Delle	
1/26/09	AM		Discharge			.31	
	2.00	0	open	159			
	.05	0	30	149			
	.07	2	"	142			
	.10	5	"	138.2			
	.15	10	"	136			
	.20	20	"	133			
	.25	30	"	131	82.5	72.7	
	.30	40	"	130			
	4.00	60	"	127	82.5	73	
	.25	80	"	124.7			
	.30	90	"		82.5	72.2	
	.45	100	"	124.2			
	5.00	120	"	123	78.5	72.7	
	.25	140	"	122			
	.30	150	"	122	78.2	73	
	.45	160	"	121			
	6.00	180	"	120	86.2	73	
	.25	200	"	119			
	.30	210	"		W	73	
	.45	220	"	118			
	7.00	240	"	117	89.2	73	
	.25	260	"	116			
	.30	270	"		92.7	73.2	
	.45	285	"	115			

DATE	TIME	MIN	AMPS	VOLT 32F	TEMP 32F	TEMP Delle	
1/26/09	AM 8.15	300	.36	112	91	72.5	
	.25	320	"	111			
	.35	330	"		91	73	
	.45	340	"	1.09			
	.55	350	"	1.065			
	9.05	360	"	1.04	91.5	73	
	.10	365	"	1.022			
	.15	370	"	1.01			
	.19	374	"	1.00			-197
					VOLTS-N.O.	TEMP	
				.398	72	.398 Delle	
					Charge		
					32		
	AM.					25	Electrode
1/26	9.35	0	.20	1.27	1.292	-.025 93	73 =5
	.37	2	"	1.417	1.402	-.015	2054/0.060
	.40	5	"	1.431	1.41	.005	1 = 3.4
	.45	10	"	1.452	1.42	.015	
	.55	20	"	1.491	1.44	.037	15
	10.05	30	"	1.53	1.459	.05	9.15 73
	.15	40	"	1.56	1.476	.062	15
	.35	60	"	1.602	1.492	.081	9.0 73
	.55	80	"	1.63	1.511	.095	15
	11.05	90	"				8.9 73
	.15	100	"	1.63	1.506	.10	15
	.25	110	"	1.63	1.501	.13	8.97 73

DATE	TIME	MIN	AMPS	VOLTS 398	VOLTS TO Ni O2 7c	VOLTS TO Ni O2 9c	TEMP 398	TEMP Adl	
1-26-09	AM 11.55	140	20	1.625	1.49	.11		132	
	12.16	161	"	1.625	1.491	.11	847	73.5	
	.35	180	"	1.629	1.487	.146	857	132 73.5	
	.55	200	"	1.63	1.482	.132		11	
	1.05	210	"				85	74	
	.15	220	"	1.625	1.483	.125		165	
	.35	240	"	1.63	1.473	.13	845	74	
	.55	260	"	1.634	1.473	.132		19	
	2.05	270	"				84	75	
	.15	280	"	1.633	1.471	.138		20	
	.35	300	"	1.635	1.47	.14	837	74.7	
	.55	320	"	1.64	1.469	.145		25	
	3.15	340	"	1.643	1.465	.152	833	75	
	.35	360	"	1.648	1.47	.158		25	
	.55	380	"	1.652	1.47	.162	835	76	
	4.05	390	"				835	76	
	.15	400	"	1.66	1.482	.17		8	
	.35	420	"	1.67	1.483	.175	84	76	
	.55	440	"	1.672	1.486	.18		32	
	5.05	450	"				842	76	
	.15	460	"	1.68	1.49	.185		35	
	.35	480	"	1.693	1.491	.19	832	76	
	.55	500	"	1.705	1.50	.193		32	
	6.05	510	"				832	76	
	.15	520	"	1.718	1.505	.20			

DATE	TIME	MIN	AMPS	VOLTS 398	VOLTS TO Ni O2 7c	VOLTS TO Ni O2 7ii	TEMP 398	TEMP Adl	
	PM.							25	
1-26-09	6.35	540	20	1.732	1.512	.202	835	76	
	.55	560	"	1.732	1.53	.205		25	
	7.05	570	"				835	76	
	.15	580	"	1.732	1.545	.215		30	
	.35	600	"	1.732	1.56	.215	842	76.7	
	.55	620	"	1.729	1.565	.212		38	
	8.05	630	"	1.732	1.567	.212	85 (85.5)	76.7	-104 @ 20
				20.2 ×					
				Simultaneous 32					
	PM								
1-26-09	9.02	–	off	1.595					
	.10	0	20	1.49					
	.12	2	"	1.405					
	.15	5	"	1.37					
	.20	10	"	1.347					
	.30	20	"	1.322					
	.40	30	"	130					
	.50	40	"	1.305					
	9.10	60	"	1.29	87.5	76.5			
	.30	80	"	1.252					
	.50	100	"	1.237					
	10.10	120	"	1.222	89	76.5			
	.30	140	"	1.212					
	.50	160	"	1.205					
	11.10	180	"	1.20	90.5	76.7			
	.30	200	"	117					
	.50	220	"	116.2					

DATE	TIME	MIN	AMP	VOLTS 39K	TEMP 39K	TEMP dale	
1/27/09	AM 12:10	240	30	112.5	77.7	77.2	
	:30	260	"	114			
	:50	280	"	114.2			
	1:10	300	"	112.8	94	77.2	
	:30	320	"	111.1			
	:40	330	"	109.5			
	:50	340	"	107.7			
	2:00	350	"	106.2			
	:10	360	"	103	96	77	
	:20	370	"	101.0			
	:22	372	"	100			-186
1/27	AM		Charge		33		
	2:00	0	30	139	95.5	76.5	
	:32	2	"	143.7			
	:35	5	"	146.2			
	:40	10	"	158.2			
	:50	20	"	157			
	3:00	30	"	154.7			
	:10	40	"	160.5			
	:30	60	"	162.7	93.7	76	
	:50	80	"	165			
	4:10	100	"	165			

DATE	TIME	MIN	AMPS	VOLTS 39K	TEMPS 35K	dale	
1/27/09	AM 4:30	120	30	165	91.5	75.5	
	:50	140	"	165.7			
	5:10	160	"	165			
	:30	180	"	167	89	74	
	:50	200	"	167.7			
	6:10	220	"	167.2			
	:30	240	"	169	88.7	75	
	:50	260	"	169.5			
	7:10	280	"	170.2			
	:30	300	"	171.5	88	75	
	:50	320	"	172.5			
	8:10	340	"	1.737			
	:30	360	"	1.76	87.5	74	
	:50	380	"	1.79			
	9:10	400	"	1.82			
	:30	420	"	1.832	88	737	-7 lms. @ 30
					90.2		
			Discharge		33		
27	AM 9:33	—	then	1.59			
	9:35	0	30	1.50			
	:37	2	"	1.422			
	:40	5	"	1.39			
	:45	10	"	1.37			
	:55	20	"	1.337			
	10:07	32	"	1.317			

DATE	TIME MIN	AMPS	VOLTS 398	TEMP 398	TEMP Side	
	AM					
1/27/09	10.15 .40	30	1.202			
	.35 .60	"	1.277	88.7	72.7	
	.55 .80	"	1.257			
	11.15 .100	"	1.247			
	.35 .120	"	1.232	88.2	74	
	.55 .140	"	1.22			
	PM.					
	12.15 .160	"	1.21			
	.35 .180	"	1.20	87.7	73	
	.55 .200	"	1.195			
	1.15 .220	"	1.177			
	.35 .240	"	1.165	89.5	72.2	
	.55 .260	"	1.152			
	2.15 .280	"	1.137			
	.35 .300	"	1.117	91	73.2	
	.55 .320	"	1.095			
	3.15 .340	"	1.082			
	.35 .360	"	1.017	93.7	73.7	
	.55 .380	"	1.00			-182

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Side
	PM.			Change = 3.4		
1-27-09	3.50	0	30	1.37	96	73.2
	.52	2	"	1.367		
	.55	5	"	1.362		
	4.00	10	"	1.50		
	.10	20	"	1.565		
	.20	30	"	1.607		
	.30	40	"	1.64		
	.50	60	"	1.652	94.2	73.5
	5.10	80	"	1.655		
	.30	100	"	1.655		
	.50	120	"	1.65	91.5	73.7
	6.10	140	"	1.655		
	.30	160	"	1.66		
	.50	180	"	1.66	90.2	74
	7.10	200	"	1.67		
	.30	220	"	1.677		
	.50	240	"	1.685	89	74.2
	8.10	260	"	1.695		
	.30	280	"	1.702		
	.50	300	"	1.72	88.5	74.5
	9.10	320	"	1.73		
	.30	340	"	1.745		
	.50	360	"	1.775	88.5	74.7
	10.10	380	"	1.80		

DATE	TIME	MIN.	AMP	VOLTS 39F	TEMP. 39F	TEMP. data
1-27-09	PM 1020	400	20	1225		
	.50	470	"	123	89	74.5
					90.9	
				Discharge # 34		
1-27-09	PM 1053	—	open	1295		
	.55	0	20	150		
	.59	2	"	144		
	11.00	5	"	139.7		
	.05	10	"	137		
	.15	20	"	134.1		
	.25	30	"	132.2		
	.35	40	"	130.8		
	.55	60	"	127.1	90	74.2
1/28	AM 12.15	80	"	124.1		
	.35	100	"	124.1		
	.55	120	"	123.5	91	75
	1.15	140	"	122.1		
	.35	160	"	121.7		
	.55	180	"	120.1	91.2	75.5
	2.15	200	"	119.7		
	.35	220	"	118.3		
	.55	240	"	117	91.5	75
	3.15	260	"	116		
	.35	280	"	115		
	.55	300	"	112.6	93.5	75.2

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMP 39F	TEMP data	
1/28/09	AM 4.05	310	30	111.7			
	.15	320	"	111			
	.25	330	"	109.9			
	.35	340	"	108			
	.45	350	"	106			
	.55	360	"	103.1	95.5	76	
	5.05	370	"	100.7			
	.07	372	"	100	95.7	76	-186
				Fe	Cu	Temps	
1/28				Discharge		35	215	Electrode 5
	AM 5.20	0	30	140	149.5	102	97.5	76
	.22	2	"	144.7	142.1	100.2		
	.25	5	"	146.7	143	101.4		
	.30	10	"	150.7	145	103.6		
	.40	20	"	156.2	147.1	106.1	185	
	.50	30	"	160.5	149.5	108.1	95.5	76
	6.00	40	"	164	151.7	109.9		
	.20	50	"				18	
	.20	60	"	165.8	151.1	111	94	76
	6.40	80	"	165	149	111.9	93	75.5
	7.00	100	"	164	146.5	112.7	165	
	.20	120	"				92.5	76
	.40	140	"	165	147.7	113.5		

DATE	TIME	MIN	AMPS	VOLTS 31c	3c	21c	Temps. 39	Adle	
1/28/09	7.50 AM	170	30	1.69	1.47	1.41	89.5	75	
	800	160	"	1.663	1.477	.155		130	
	.20	180	"	1.671	1.477	.163	87.2	73.5	
	.40	200	"	1.68	1.477	.17		128	
	.50	210	"	1.69	1.499	.181	85.7	74.5	
	9.00	220	"	1.69	1.499	.181			
	20	240	"	1.697	1.41	.192	Electrode was not immersed properly		
	24	244	"	1.698	1.492	.19	85	73.5	
	.40	260	"	1.708	1.498	.197		112	
	50	270	"				84.5	73.5	
	1000	280	"	1.716	1.498	.202		110	
	20	300	"	1.725	1.505	.21	84.5	73.5	
	40	320	"	1.74	1.512	.215		115	
	50	330	"				85	73.5	
	11.00	340	"	1.758	1.527	.22		120	
	20	360	"	1.782	1.542	.225	85.5	73.5	
	40	380	"	1.81	1.57	.232		121	
	50	390	"				86.5	73.7	
	1200	400	"	1.83	1.585	.235		132	
	20	420	"	1.831 obs x	1.59 obs	.237 obs	87.2	74 obs	
							89.0		

DATE	TIME	MIN	AMPS	VOLTS 39	TEMP 39	Adle	
	PM			Discharge		35	
1/28/09	1233	—	40 min	1.59			
	35	10	30	1.50			
	37	2	"	1.422			
	30	5	"	1.395			
	35	10	"	1.37			
	45	20	"	1.34			
	55	30	"	1.32			
	1.05	40	"	1.309			
	25	60	"	1.295	88	74.2	
	45	80	"	1.26			
	2.05	100	"	1.245			
	25	120	"	1.232	89.5	74	
	45	140	"	1.22			
	3.05	160	"	1.21			
	25	180	"	1.20	89.7	74.5	
	45	200	"	1.19			
	4.05	220	"	1.177			
	25	240	"	1.167	91.5	74.2	
	45	260	"	1.157			
	5.05	280	"	1.14			
	25	300	"	1.132	94	74.5	
	45	320	"	1.10			
	6.05	340	"	1.065			
	25	360	"	1.05	96.5	74.7	

DATE	TIME	Min.	AMP	VOLTS #398	TEMP #398	TEMP #Slide	
1-28-09	P.M. 6.30	365	20	1.00 0°F			-182.5
				Charge #36			
1-28-09	P.M. 6.36	0	40	1.72	96	77	
	.37	2	"	1.47			
	.40	5	"	1.512			
	.45	10	"	1.56			
	.55	20	"	1.62	97.2	77	
	7.05	30	"	1.66			
	.15	40	"	1.675	99	77	
	.35	60	"	1.665	99	77	
	.55	80	"	1.67	99.9	77.2	
	8.15	100	"	1.675	98.2	77.2	
	.35	120	"	1.68	97	77.2	
	.55	140	"	1.687			
	9.15	160	"	1.692	96.7	77.5	
	.35	180	"	1.70			
	.55	200	"	1.712	96.5	77.7	
	10.15	220	"	1.725			
	.35	240	"	1.74	96.5	78	
	.55	260	"	1.76	97	78	
	11.15	280	"	1.775	97.5	78	
	.35	300	"	1.829	98.2	78	
	.50	315	"	1.84	98.5	78	-5¼ lbs. @ 40
					97.4		

DATE	TIME	Min.	AMP	VOLTS #398	TEMP #398	TEMP #Slide	
				Discharge #36			
1-29-09	P.M. 11.53	-	open	1.925			
	.55	0	20	1.60			
	.57	2	"	1.625			
	12.00	5	"	1.725			
	.05	10	"	1.777			
	.15	20	"	1.745	98	78	
	.25	30	"	1.33			
	.35	40	"	1.707			
	.55	60	"	1.79	98	78	
	1.15	80	"	1.763	97.7	79	
	.35	100	"	1.745	97.5	80	
	.55	120	"	123.5	97.2	80	
	2.15	140	"	122.2	97	80	
	.35	160	"	121	97	80	
	.55	180	"	120.1	96.7	80	
	3.15	200	"	119	96.7	80	
	.35	220	"	118	96.7	80	
	.55	240	"	117	96.5	80	
	4.15	260	"	116.9	96.5	80	
	.35	280	"	114.2	96.7	79.7	
	.55	300	"	112.5	97	79.7	
	5.15	320	"	109.7	97.5	79.5	
	.25	330	"	107.7			
	.35	340	"	106	97.7	79.7	

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 39#	39	Alle	
1/29/09	AM 5.45	360	30	1.03				
	.55	361	"	1.03	98	79.2		
	6.00	365	"	1.03	98	79.2		-1825
				Charge		37		
1/29	AM 6.15	0.	40	141	101	79.2		
	.17	2	"	147				
	.20	5	"	151				
	.25	10	"	156				
	.30	20	"	164	99.7	79.2		
	.40	30	"	167				
	.45	40	"	167.5	99.2	78		
	7.15	60	"	167	98.5	78		
	.35	80	"	167	98	78.5		
	.55	100	"	167	97.5	78.7		
	8.15	120	"	1.677	97.	78.7		
	.35	140	"	1.669	96.7	78.7		
	.55	160	"	1.697	96.2	79		
	9.15	180	"	1.70	96.2	79		
	.35	200	"	1.71				
	.55	220	"	1.725	96.	79		
	10.15	240	"	1.74				
	.35	260	"	1.76	96.2	79		

DATE	TIME	MIN	AMPS	VOLTS 39#	TEMP 39#	Alle	
1/29/09	AM 10.55	280	40	1.795	96.5	78.7	
	11.15	300	"	1.837	97	78.7	
	.30	315	"	1.847	97.5	78.7	
					97.5		
				Discharge		37	
1/29	AM 11.33	—	40	1.58			
	.35	0	30	1.50			
	.37	2	"	1.412			
	.40	5	"	1.39			
	.45	10	"	1.37			
	.55	20	"	1.345	96.5	78.5	
	12.05	30	"	1.325			
	.15	40	"	1.31	96	78.5	
	.35	60	"	1.285	96	78.5	
	.55	80	"	1.267	96	78.5	
	1.15	100	"	1.25	95.5	78.5	
	.35	120	"	1.24	94.7	78.5	
	.55	140	"	1.22	94.5	78.2	
	2.15	160	"	1.215	94	78	
	.35	180	"	1.20	93.5	78	
	.55	200	"	1.195	93.5	78	
	3.15	220	"	1.18	93.2	78	
	.35	240	"	1.165	93.5	78	
	.55	260	"	1.155	93.5	77.7	
	4.15	280	"	1.14	94	77.5	

DATE	TIME	MIN.	AMP.	VOLTS 398	TEMP 398	TEMP Middle	
1-29-09	PM 4.25	300	80	1.017	94.5	77.5	
	.55	320	"	1.025	94.7	77.5	
	5.15	348	"	1.029	95	77.5	
	.20	345	"	1.017			
	.25	350	"	1.00	96	77.3	-175

Temp

Charge # 38 — Electrode No 5

								203	
1-29-09	PM 5.45	0	40	1.44	1.42	.01	97.5	77.2	
	.47	2	"	1.497	1.452	.037			40 Sp.G. = 60%
	.50	5	"	1.54	1.47	.06			1 " = 1½ "
	.55	10	"	1.57	1.492	.08		203	
	6.00	20	"	1.64	1.522	.107	97.4	77.2	
	.15	30	"	1.672	1.545	.125			
	.25	40	"	1.68	1.548	.132	97	203 77	
	.45	60	"	1.69	1.525	.142	97	203 77	
	7.00	80	"	1.67	1.51	.154	96.5	78	
	.25	100	"	1.673	1.503	.161	97	203 78	
	.45	120	"	1.66	1.50	.172	96.5	203 78.2	
	8.00	140	"	1.69	1.49.5	.182	95	203 78.5	
	.25	160	"	1.69.4	1.49.9	.179.1	94.7	203 78.5	
	.45	180	"	1.71	1.49.8	.20.1	94.5	203 78.2	
	9.00	200	"	1.72.1	1.50	.22.1	94.2	203 78.5	
	.20	220	"	1.72.1	1.50.7	.22	94.2	203 78	
	.45	240	"	1.75.4	1.50	.22.4	94	203 78	
	10.00	300		1.77.1	1.54	.235	94	203 79	

DATE	TIME	MIN.	AMP.	VOLTS 398	Fe	Mi	TEMPS 398	TEMPS Middle	
1/29/09	PM 12.25	280	40	1.22.1	1.17.4	.23.1	95.5	125 78	
	.45	300		1.24.8	1.19.7	.24	96	125 78	
	11.00	315		1.23 (1.23 adj)	1.19.1	.24.1	95.7		
							(95.6)		

Discharge # 38

1/29	PM 11.03	—	off						
	.05	0	30	1.49	1.37	.12	96.8	78	
	.07	2	"	1.42	1.33	.09			
	.11	5	"	1.39	1.31.0	.069			
	.15	10	"	1.37	1.31.6	.056			
	.25	20	"	1.34.9	1.30	.039	95.5	78	
	.35	30	"	1.32.3	1.29.7	.02			
	.45	40	"	1.31	1.29.2	.00.9	95.5	78	
1/30	AM 12.05	60	"	1.28.2	1.29	-.01.5	95	78.2	
	.25	80	"	1.26.3	1.29	-.03	95	78.2	
	.45	100	"	1.24.9	1.28.8	-.04.1	94.7	78.7	
	1.05	120	"	1.23.4	1.28.1	-.05.9	94.7	78.5	
	.25	140	"	1.22.1	1.28.3	-.06.9	94.5	78.5	
	.45	160	"	1.21.2	1.27.2	-.07.9	94.5	79	
	2.05	180	"	1.20.3	1.27.2	-.085	94.2	79	
	.25	200	"	1.19.1	1.27	-.09.5	94	79	
	.45	220	"	1.18.1	1.27.1	-.10.3	94	79	
	3.05	240	"	1.17	1.27.1	-.11.0	94.2	79	
	.25	260	"	1.15.8	1.27.1	-.12.5	94.2	79	
	.45	280	"	1.13.9	1.27	-.13.4	94.5	79	

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 39K	72	76	39K	Sole
1/20/49	AM 4.00	300	30	111.9	126.8	115.8		94.5	78.5
	.15	315	"	112.1	126.2	117			
	.25	320	"	112.4	126.1	118	95		78.5
	.35	330	"	112.4	126	120			
	.45	340	"	109.2	125.9	122.1	94		78.2
	.55	350	"	101	125.5	126.5			
	.57/5.00/2		"	100	125.5	126.1	95.2	78	-17.62
	Stood 4.5 hrs over Sunday								
				TEMPS 39K	Sole				
2/			Charge	39					
	AM 2.00	0	50	162	71.2	72			
	.02	2	"	171					
	.05	5	"	175					
	.10	10	"	177.4					
	.20	20	"	177.9	76	72.2			
	.30	30	"	176.5					
	.40	40	"	175.7	80	76.5			
	.50	50	"	175.4					
	3.00	60	"	175	82	73			
	.10	70	"	175					
	.20	80	"	175	84.2	73			
	.30	90	"	175.1					
	.40	100	"	175.4	86	73.2			
	.50	110	"	175.7					

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 39K	39K	Sole	
2/1/49	AM 4.00	120	50	175.9	88	73.5		
	.10	130	"	175.9				
	.20	140	"	176	89.5	73.5		
	.30	150	"	176.1				
	.40	160	"	176.5	91.5	73.5		
	.50	170	"	177				
	5.00	180	"	177.5	92.2	73.5		
	.10	190	"	178.5				
	.20	200	"	179.9	93.5	73.5		
	.30	210	"	181.9				
	.40	220	"	184	95	73.7		
	.50	230	"	186				
	6.00	240	"	187	96.7	73.7		
	.06	246	"	187.5				Quit #
	.12	252	"	187	97			- 4½ hrs. @ .50
	Stood 4 hours							
			Discharge	39				
	AM 6.18	—	1/2	157	96.5	74		
	.20	0	50	148.2				
	.22	2	"	141.8				
	.25	5	"	139				
	.30	10	"	136.2				
	.40	20	"	134.2				
	.50	30	"	132.1				
	7.00	40	"	130.9				

DATE	TIME	MIN	AMPS	VOLTS 39	TEMP 39	TEMP Jelle	
2/1/09	AM 7.20	20	20	12.1	94	74.5	
	.40	40	"	12.1			
	8.00	100	"	12.16			
	.20	120	"	1.232	91.5	72	
	.40	140	"	1.22			
	9.00	160	"	1.21			
	.20	180	"	1.20	92	74.5	
	.40	200	"	1.19			
	10.00	220	"	1.18			
	20	240	"	1.17	92.7	74.5	
	40	260	"	1.16			
	11.00	280	"	1.145			
	20	300	"	1.112	93.5	75	
	40	320	"	1.065			
	45	325	"	1.05			
	50	330	"	1.031			
	55	335	"	1.012			
	57	337½	"	1.00	94.5	75.2	-168.7
			Charge	+ 40			
2/1/09	PM 12.20	0	50	1.47	96	75.5	
	22	2	"	1.55			
	25	5	"	1.595			
	30	10	"	1.64			

DATE	TIME	MIN	AMPS	VOLTS 39	TEMP 39	TEMP Jelle	
2/1/09	PM 12.40	20	50	1.68	96	75.5	
	50	30	"	1.71			
	1.00	40	"	1.705	96.2	75.5	
	10	50	"	1.697			
	20	60	"	1.697	96.5	75.5	
	30	70	"	1.697			
	40	80	"	1.705	96.5	75.5	
	50	90	"	1.71			
	2.00	100	"	1.717	96.5	75.7	
	10	110	"	1.727			
	20	120	"	1.73	96.7	76	
	30	130	"	1.732			
	40	140	"	1.73	97.2	76.5	
	50	150	"	1.74			
	300	160	"	1.75	97.5	76.5	
	10	170	"	1.72			
	20	180	"	1.77	98.5	76.5	
	30	190	"	1.78			
	40	200	"	1.795	99.5	77	
	50	210	"	1.83			
	4.00	220	"	1.85	101	77	
	10	230	"	1.867			
	20	240	"	1.87	102.5	77	
	30	250	"	1.872			99.1 Low
	35	255	"	1.877	103	77	-45 @ 50

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Cable	
				Discharge			
2/1/09	PM 4.38	—		open 1.562		40	
	440	0	30	1.49			
	42	2	"	1.417			
	45	5	"	1.39			
	50	10	"	1.375			
	500	20	"	1.35	101.2	77.5	
	10	30	"	1.33			
	20	40	"	1.31			
	40	60	"	1.289	99.5	77	
	600	80	"	1.262			
	20	100	"	1.25			
	42	120	"	1.229	97.5	77	
	700	140	"	1.225			
	20	160	"	1.213			
	40	180	"	1.20	96	77.7	
	800	200	"	1.192			
	20	220	"	1.18			
	40	240	"	1.173	95	78.5	
	900	260	"	1.157			
	20	280	"	1.147			
	40	300	"	1.113	95.5	78.5	
	1000	320	"	1.095			
	10	330	"	1.04			
	20	340	"	1.013			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Cable			
2-1-09	PM. 1.022	342	.30	1.00 open	96 98	78 Ni.	TEMP. 398	Cable	-171
				Charge					
2-1-09	PM. 1.040	0	60	1.425	140	.02	96	78	15
	42	2	"	1.555	1.445	.0972			
	45	5	"	1.595	1.49	.0977			
	50	10	"	1.655	1.525	.125			
	1.00	20	"	1.70	1.545	.142	97.5	77.7	20.5
	10	30	"	170.2	154.5	.15			
	20	40	"	170.9	155.1	.159	99	78	21
	30	50	"	171.5	155.2	.165			
	40	60	"	171.8	155.6	.17.4	98.5	78	20.5
	50	70	"	172.7	156.9	.18			
2/2	AM 12.00	80	"	170	156.2	.166	98	78	20
	10	90	"	170.7	156.2	.17.4			
	20	100	"	171	156	.20	98	77.5	20.5
	30	110	"	171.7	156.2	.22.2			
	40	120	"	172.1	156	.21.1	97.5	77.2	20.8
	50	130	"	172.5	156	.21.6			
	1.00	140	"	172.4	157.1	.22.1	97.5	77	20.5
	10	150	"	173.9	157.2	.22.3			
	20	160	"	174.8	157.9	.23	97	76.2	20.8
	30	171	"	175.9	157.4	.23.1			
	40	180	"	176.8	157.2	.23.7	97	76	21
	50	190	"	177.8	157.3	.24			

Electrode

50 gp = 40 Ni
1 " = 1½ "

Ni. = 5 Cap
Z " = 1½ "
5 " = 4½ "
10 " = 8½ "

DATE	TIME	MIN	AMP	VOLTS 32E	7E	7W	TEMP. 32E	7W	
2/2/09	AM 2.00	200	50	180.1	154.9	124.6	97.5	76.7	
	.10	210	"	182.9	157	.25		213	
	.20	220	"	185.3	159.6	.25	99	76	
	.30	230	"	186.4	160.3	.25		245	
	.40	240	"	187	161	.25	100.7	76.2	
	.50	250	"	187.3	161.2	.25			
	.52	252	"	187.5	161.1	.25	98.3		
				32E	TIME 32E	7W			
				Discharge		.42			
2/2	AM 2.58	—	0	157	100	76			
	3.00	0	20	149					
	.02	2	"	142					
	.05	5	"	139.2					
	.10	10	"	137					
	.20	20	"	134.2					
	.30	30	"	133					
	.40	40	"	131					
	4.00	60	"	128.5	97.5	76			
	.20	80	"	126.5					
	.40	100	"	124.7					
	5.00	120	"	123	94	75.2			
	.20	140	"	122					
	.40	160	"	121					
	6.00	180	"	120	93	75.5			
	.20	200	"	119					

DATE	TIME	MIN	AMP	VOLT 32E	TEMP 32E	7W	
2/1/09	AM 6.40	220	30	117.7			
	7.00	240	"	117	92.2	75.5	
	.20	260	"	115.7			
	.40	280	"	113			
	8.00	300	"	111.5	95	76.5	
	.20	320	"	108			
	.30	330	"	1.057			
	.35	335	"	104			
	.40	340	"	1.017			
	.45	345	"	1.00	96.5	76.5	-1725
				32E			
				Charge .42			
2/1/09	AM 9.05	0	60	1.50	97	76.5	
	.06	1	"	1.557			
	.07	2	"	1.582			
	.08	3	"	1.597			
	.09	4	"	1.607			
	.10	5	"	1.625			
	.12	7	"	1.65			
	.15	10	"	1.677			
	.20	15	"	1.705			
	.25	20	"	1.73	98.7	76	
	.35	30	"	1.735			
	.45	40	"	1.737	99.5	75.7	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Dille	
	AM						
2/2/09	9.55	50	60	1.717			
	1005	60	"	1.72	100	75.7	
	.15	70	"	1.72			
	.25	80	"	1.725	1005	75.7	
	.35	90	"	1.732			
	.45	100	"	1.747	1007	76	
	.55	110	"	1.75			
	11.05	120	"	1.76	101	76	
	.15	130	"	1.77			
	.25	140	"	1.775	101	76	
	.35	150	"	1.797			
	.45	160	"	1.817	1015	76	
	.55	170	"	1.84			
	12.05	180	"	1.87	102	75.7	
	.15	190	"	1.882			
	.25	200	"	1.897	1025	75.5	
	.35	210	"	1.902	1042	75.5	$-3\frac{1}{2}$ hrs @ 60
					100.6		
				Discharge			
	PM						
2/2	12.38	—	0 hrs	1.58	1044	75.5	
	1.40	0	30	1.50			
	.42	2	"	1.475			
	.45	5	"	1.405			
	.50	10	"	1.372			
	1.00	20	"	1.36	1032	75.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Dille	
	PM						
2/2/09	1.10	30	30	1.34			
	.20	40	"	1.32			
	.40	60	"	1.29	1002	75.5	
	2.00	80	"	1.27			
	.20	100	"	1.255			
	.40	120	"	1.24	99	75.5	
	3.00	140	"	1.222			
	.20	160	"	1.217			
	.40	180	"	1.20	1.93	76	
	4.00	200	"	1.187			
	.20	220	"	1.18			
	.40	240	"	1.173	94	76	
	5.00	260	"	1.157			
	.20	280	"	1.133			
	.40	300	"	1.105	95	76	
	6.00	320	"	1.089			
	.14	334	"	1.00	95	76	-167.2 ϕ

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP elec	
			Charge # 43				
	PM						
2-2-09	6.30	0	60	1.48	94.5	76	
	.31	1	"	1.525			
	.32	2	"	1.565			
	.33	3	"	1.58			
	.34	4	"	1.592			
	.35	5	"	1.607			
	.37	7	"	1.625			
	.40	10	"	1.652			
	.45	15	"	1.70			
	.50	20	"	1.725	99	76.2	
	7.00	30	"	1.72			
	.10	40	"	1.72	99.5	76	
	.20	50	"	1.72			
	.30	60	"	1.72	99.2	75.7	
	.40	70	"	1.722			
	.50	80	"	1.73	99.5	75.5	
	8.00	90	"	1.74			
	.10	100	"	1.747	100	75.2	
	.20	110	"	1.747			
	.30	120	"	1.752	101	75	
	.40	130	"	1.755			
	.50	140	"	1.762	102	75	
	9.00	150	"	1.765			
	.10	160	"	1.805	102.7	75	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP elec	
2-2-09	9.20	170	60	1.835			
	.30	180	"	1.87	103.7	75	
	.40	190	"	1.882			
	.50	200	"	1.895	106	75	
	10.00	210	"	1.89	105	75	−3½ lns. @ 60
					(105.7)		
			Discharge # 43				
	PM						
2-2-09	10.03	–	off	1.58			
	.05	0	20	1.562			
	.07	2	"	1.44			
	.10	5	"	1.402			
	.15	10	"	1.395			
	.25	20	"	1.357	104	75	
	.35	30	"	1.335			
	.45	40	"	1.32	102.5	75	
	11.05	60	"	1.29	102	75.2	
	.25	80	"	1.27			
	.45	100	"	1.25			
	12.05	120	"	1.237	99.5	77	
	.25	140	"	1.225			
	.45	160	"	1.215			
	1.05	180	"	1.20	98	78.7	
	.25	200	"	1.19			
	.45	220	"	1.181			
	2.05	240	"	1.17	96.7	78	
	.25	260	"	1.155			

DATE	TIME	MIN	AMP	VOLTS 32F	32F.	78F.	Temps 78F Delta	
2/3/09	Am 2.45	210	30	113.5				
	3.05	300	"	111	97	78		
	.25	220	"	106.2				
	.35	230	"	103				
	.43 1/2	232 1/2	"	100	98	78	-169.7	
					7c	7ic	Temps	
2/3	Am 4.00	Charge 0.	60	150	144	.105	235 91.5 78	
	.01	1	"	152.5	145	.09.9		
	.02	2	"	157	146	.09.1		
	.03	3	"	159	147	.10.2		
	.04	4	"	160.1	147.3	.177		
	.05	5	"	161.9	148.2	.172		
	.07	7	"	164.6	149.4	.173.2		
	.10	10	"	167.7	150.2	.174.2		
	.15	15	"	170.9	151.7	.175.8	222	
	.20	20	"	172.2	154	.176.2	102.2 78	
	.30	30	"	172	153	.177	235	
	.40	40	"	171.1	151.5	.178	102.5 79	
	.50	50	"	171.4	150.9	.178.9	228	
	5.00	60	"	171.9	150.2	179.9	102 79.2	
	.10	70	"	172.1	149.9	.2.1	228	
	.20	80	"	172.9	149	.2	102 79.5	

DATE	TIME	MIN	AMP	VOLTS 32F	7c	7ic	Temps 78F Delta	
2/3/09	5.00	90	60	173.7	148.5	.121.5	228	
	.40	100	"	174	149.6	.122.1	102.7	79.2
	.50	110	"	174.2	150.1	.122.7		
	6.00	120	"	175.5	151	.123	233 102.7	79.5
	.10	130	"	175.5	151.9	.123.1		
	.20	140	"	176.5	151.7	.123.5	235 104	79.5
	.30	150	"	176.1	153	.123.9		
	.40	160	"	176	154.7	.124	250 104.5	79.5
	.50	170	"	177	155.5	.124		
	7.00	180	"	176	159.4	.124	260 105.5	79.5
	.10	190	"	177.5	161	.124.1	270	
	.20	200	"	176.6	161	.124.1	106.5	79.5
	.20	210	"	177.3	161	.124	106.5	79.5 -3½ @ 60
				Am +			106.5	
				Discharge			66	
2/3	Am 7.33	0	30	157				
	.35	0.	30	149				
	.37	2	"	142				
	.40	5	"	139				
	.45	10	"	137				
	.55	20	"	134.5				
	.05	30	"	132.5	132.5	79.5		
	.15	40	"	131				
	.25	50	"	129.5	129	79.2		
	.35	60	"	128.5				
	.45	70	"	127				

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle	
2/3/09	AM 9.15	100	20	1.247			
	.35	120	"	1.23	96	78.5	
	55	140	"	1.217			
	10.15	160	"	1.205			
	.35	180	"	1.195	97	77	
	.55	200	"	1.187			
	11.15	220	"	1.175			
	35	240	"	1.165	97.2	76.7	
	55	260	"	1.15			
	PM 1.15	280	"	1.13			
	35	300	"	1.097	97.5	76.5	
	55	320	"	1.042			
	1.05	330	"	1.007			
	.06	331½	"	1.00	97.2	76.2	-16.5.7
			Change	# 45			
2/3	PM 1.40	0	.90	1.67	94.2	76	
	.41	1	"	1.692			
	.42	2	"	1.72			
	.43	3	"	1.74			
	.45	5	"	1.777			
	.47	7	"	1.80			
	.50	10	"	1.847	97.5	76	
	.55	15	"	1.905			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle	
2/3/09	PM 2.00	20	90	1.995	100	76	
	.05	25	"	1.99			
	.10	30	"	1.99	102	76	
	.20	40	"	1.99	103.2	76	
	.30	50	"	1.995	105	76	
	.40	60	"	1.995	106.5	76	
	.50	70	"	1.805	108	76	
	3.00	80	"	1.807	110.2	76.5	
	.10	90	"	1.817	111.2	76.5	
	.15	95	"	1.83			
	.20	100	"	1.84	112	76.5	
	.25	105	"	1.857			
	.30	110	"	1.88	113	76.5	
	.35	115	"	1.91			
	.40	120	"	1.92	114.5	76.5	
	.45	125	"	1.93			
	.50	130	"	1.937	115.7	76.5	
	.55	135	"	1.937			
	4.00	140	"	1.937	117	76.5	-2⅓ hrs. @ 90
					109.3		
			Discharge	# 45			
2-09	PM 4.03		0 Amp	1.57			
	.02	0	20	1.692	117	76.5	
	.07	2	"	1.72			
	.10	5	"	1.805			

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS Cable	TEMP. 398	TEMP. Cable	
	P.M.							
2-2-09	4.15	10	20	1.285	1.147			
	.25	20	"	1.355				
	.35	30	"	1.332				
	.45	40	"	1.315	1.10			
	5.00	50	"	1.285	1.075	76.2		
	.25	80	"	1.265				
	.45	100	"	1.265				
	6.05	120	"	1.235	1.022	76.2		
	.25	140	"	1.217				
	.45	160	"	1.205				
	7.05	180	"	1.197	.98	76		
	.25	200	"	1.193				
	.45	220	"	1.192				
	8.05	240	"	1.185	.96	76.2		
	.25	260	"	1.185				
	.45	280	"	1.10				
	9.05	300	"	1.042	.965	76.2		
	.15	310	"	1.002				
	.15	3.11	"	1.00				-155.5

DATE	TIME	MIN.	AMP	VOLTS 398	To NiOz Fig	To NiOz Ni.	TEMP. 398	TEMP. Cable	
				Change = 46					
	P.M.						22.5		
2-2-09	9.30	0	90	1.54	1.465	.11	77	76.2	
	.31	1	"	1.63	1.47	.165			Electrode = 6
	.32	2	"	1.67	1.477	.18			90 sq. = 60 sq.
	.33	3	"	1.71	1.487	.192			1 " = 2/3 "
	.35	5	"	1.737	1.525	.197			1 sq = 1 1/2 sq.
	.37	7	"	1.76	1.54	.205			2 " = 3 "
	.40	10	"	1.78	1.56	.215	100	76.2	5 " = 7 1/2 "
	.45	15	"	1.787	1.56	.222			10 " = 15 "
	.50	20	"	1.793	1.565	.225	102	76.2	
	.55	25	"	1.798	1.573	.232	102.7		
	10.00	30	"	1.777	1.545	.237	104	76	
	.10	40	"	1.783	1.552	.247	102		
	.20	50	"	1.785	1.552	.257	103.5	76.2	
	.30	60	"	1.79	1.552	.26	102.5	76.2	
	.40	70	"	1.797	1.552	.26	109	76.2	
	.50	80	"	1.805	1.555	.262	110	76.2	Temp diff 34.8
	11.00	90	"	1.82	1.565	.265	111	76.2	
	.05	95	"	1.84	1.56	.265	110.5		
	.10	100	"	1.86	1.58	.265	109	76.2	
	.15	105	"	1.882	1.585	.272	110.5		
	.25	110	"	1.90	1.62	.272	110	76	
	.30	115	"	1.912	1.627	.277	110.3		
	.35	120	"	1.92	1.630	.278	110	75.7	
	.35	125	"	1.922	1.640	.272	109.7		
	.40	130	"	1.925	1.645	.272	110	75.3	
	.45	135	"	1.932	1.645	.277	110.3		
	.50	140	"	1.932	1.645	.277	110.3	76.2	-2 1/2 @ 90.0
				J	J.	J.	10.3	J.	

DATE	TIME	MIN	AMP	VOLTS 39V	TEMP 37V	TEMP 38V	
			Discharge		46		
2-3-09	PM 11.50	–	0 Amp	155.5			
	.55	0	30	147.5	115	75	
	.57	2	"	142.5			
	12.00	5	"	140.2			
	.05	10	"	138.5	117	75.2	
	.15	20	"	135.6			
	.25	30	"	133.9			
	.35	40	"	132	112.2	75.5	
	.55	60	"	129	109.9	75.2	
	1.15	80	"	127			
	.35	100	"	125			
	.55	120	"	123.7	107	74.5	
	2.15	140	"	122.2			
	.35	160	"	121			
	.55	180	"	120	99.2	74.7	
	3.15	200	"	119			
	.35	220	"	117.7			
	.55	240	"	116.7	97	75	
	4.15	260	"	113.9			
	.35	280	"	111.2			
	.55	300	"	105	96	75	
	5.05	310	"	101			
	.08	313	"	100	96	75	1605

DATE	TIME	MIN	AMP	VOLTS 39V	TEMPS 37V	TEMPS 38V
2/4/09			Charge		47	
	AM 5.25	0	30	137	97	75.2
	.27	2	"	141		
	.30	5	"	144.2		
	.35	10	"	149		
	.45	20	"	155		
	.55	30	"	160		
	6.05	40	"	163		
	.25	60	"	165	94	75.5
	.45	80	"	165		
	7.05	100	"	165		
	.25	120	"	165	90	75
	.45	140	"	165		
	8.05	160	"	166		
	.25	180	"	166.2	89	75.5
	.45	200	"	167		
	9.05	220	"	166		
	.25	240	"	169	87.7	75
	.45	260	"	170		
	10.05	280	"	172.5		
	.25	300	"	173	87.5	74.5
	.45	320	"	174.2		
	11.05	340	"	177.7		
	.25	360	"	177	88.5	74.5
	.45	380	"	184		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Delle	
	PM						
2/4/09	12.05	400	30	1.84			
	25	420	"	1.84	90.5	74.2	
					90.4		
			Discharge		# 47		
2/4	PM 1228	—	open	1.59			
	1230	0	30	1.492			
	32	2	"	1.417			
	35	5	"	1.377			
	40	10	"	1.362			
	50	20	"	1.332			
	1.00	30	"	1.22			
	13	43	"	1.306			
	30	60	"	1.285	90.5	74.5	
	50	80	"	1.265			
	2.10	100	"	1.245			
	30	120	"	1.227	90	74	
	50	140	"	1.215			
	3.10	160	"	1.215			
	30	180	"	1.207	90	74	
	50	200	"	1.198			
	4.10	220	"	1.189			
	30	240	"	1.18	90	74	
	50	260	"	1.165			
	5.10	280	"	1.155			
	30	300	"	1.137	91.7	74.5	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Delle	
	PM						
2/4/09	5.50	320	30	1.105			
	6.10	340	"	1.063			
	30	360	"	1.04			
	50	380	"	1.00	95	75	- 178
			Charge		# 48		
2-4-09	PM 7.55	0	30	1.40	89	76.2	
	57	2	"	1.46			
	8.00	5	"	1.497			
	05	10	"	1.54			
	15	20	"	1.60			
	25	30	"	1.637			
	35	40	"	1.659			
	55	60	"	1.667	89	75	
	9.15	80	"	1.662			
	35	100	"	1.662			
	55	120	"	1.665	86.5	74.2	
	10.15	140	"	1.667			
	35	160	"	1.672			
	55	180	"	1.672	85	74	
	11.15	200	"	1.681			
	35	220	"	1.69			
	55	240	"	1.695	84.5	73.2	
	12.15	260	"	1.705			
	35	280	"	1.72			

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	Bolts	
2/5/09	AM 12.55	300	30	173	84.5	73.2	
	1.15	320	"	174.2			
	1.35	340	"	177			
	.55	360	"	180.2	85.5	72.2	
	2.15	380	"	183			
	.35	400	"	184.5			
	.55	420	"	185	87.5	73	
					(84.4)		
2/5				Discharge		74	
	AM 2.55	—	Open	159			
	3.00	0	30	151			
	.02	2	"	142.6			
	.05	5	"	139			
	.10	10	"	137			
	.20	20	"	134			
	.30	30	"	132.2			
	.40	40	"	131			
	4.00	60	"	128.4	89	74.5	
	.20	80	"	127			
	.40	100	"	126			
	5.00	120	"	124	89	74	
	.20	140	"	123			
	.40	160	"	122			
	6.00	180	"	121	88.5	74	
	.20	200	"	120			

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	Bolts	
2/5/09	AM 6.40	220	30	119			
	7.00	240	"	118	88.5	73	
	.20	260	"	117			
	.40	280	"	116			
	8.00	300	"	114	91	74	
	.20	320	"	112			
	.40	340	"	108.7			
	.50	350	"	106			
	9.00	360	"	103			
	07	367	"	100	92.7	73.5	-183.5
				399	7e	9i	TEMP 39F Bolts
				Charge	49		
2/5	AM 9.30	0	30	1.40	1.385	.012	9.1	73.5	Electrode ± 5
	.32	2	"	1.45	1.405	.012			
	.35	5	"	1.47	1.432	.035			
	.40	10	"	1.517	1.45	.057			
	.50	20	"	1.57	1.479	.081			
	10.00	30	"	1.609	1.49	.101			
	.10	40	"	1.64	1.51	.107			
	.30	60	"	1.655	1.517	.127	89.7	74	
	.50	80	"	1.65	1.505	.132			
	11.10	100	"	1.65	1.495	.14			
	.30	120	"	1.652	1.491	.15	89.7	75.5	
	.50	140	"	1.657	1.49	.157			

DATE	TIME	MIN	AMPS	VOLTS 398	VOLTS TO 72	NiO_2 94	TEMP 398	TEMP Solu	
	PM								
2/5/09	12.10	160	30	1.657	1.449	.162			
	.20	170	"	1.662	1.485	.177	89	75.7	
	.50	200	"	1.67	1.485	.178			
	1.10	220	"	1.678	1.482	.183			
	.30	240	"	1.682	1.482	.195	88.5	75.7	
	.50	260	"	1.698	1.487	.20			
	2.10	280	"	1.707	1.49	.21			
	.30	300	"	1.721	1.497	.219	89	75.5	
	50	320	"	1.732	1.50	.223			
	3.10	340	"	1.75	1.51	.23			
	30	360	"	1.777	1.53	.237	88.5	75	
	50	380	"	1.81	1.54	.24			
	4.10	400	"	1.83	1.592	.237	89.5		
	.30	430	"	1.84	1.598	.238	91	75	
				Break change			49		
	PM								
2-5-09	4.32	–	open	1.58	1.405	.165			
	.35	0	30	1.605	1.387	.165			
	37	2	"	1.622	1.345	.08			
	.40	5	"	1.78	1.365	.067			
	.45	10	"	1.365	1.30	.067			
	.55	20	"	1.34	1.296	.042			
	5.05	30	"	1.322	1.295	.027			
	.15	40	"	1.309	1.292	.013			
	.35	60	"	1.307	1.29	.0172	92	75.7	
	.55	80	"	1.29	1.29	.003			

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS TO 72	NiO_2 Ni.	TEMP 398	TEMP solu	
	PM.								
2-5-09	6.15	100	30	1.25	1.292	-.045			
	.30	120	"	1.24	1.291	-.057	92.7	76.2	
	.55	140	"	1.27	1.299	-.062			
	7.15	160	"	1.217	1.283	-.066			
	.35	180	"	1.207	1.277	-.093	92.5	76.7	
	.55	200	"	1.20	1.292	-.095			
	8.15	220	"	1.192	1.284	-.10			
	.35	240	"	1.18	1.295	-.113	93	77	
	.55	260	"	1.173	1.285	-.12			
	9.15	280	"	1.16	1.284	-.125			
	.35	300	"	1.14	1.283	-.15	94.5	77.5	
	.55	320	"	1.119	1.283	-.173			
	10.15	340	"	1.083	1.285	-.202			
	.35	360	"	1.03	1.28	-.257	95	77	
	.55	380	"	1.00	1.28	-.281	95	76.9	-193.5
				Change to					
	PM								
2-5-09	1.245	0	30	1.34	9.5	76.5			
	.47	2	"	1.41					
	.50	5	"	1.437					
	.55	10	"	1.49					
	11.05	20	"	1.56					
	.15	30	"	1.59					
	.35	40	"	1.62					

1

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	Solu	
2/5/09	PM 11.45	60	30	165	94.5	74.5	
2/6	AM 12.05	80	"	166			
	.20	100	"	165			
	.45	120	"	165	90.2	74.7	
	1.05	140	"	165.5			
	.25	160	"	166			
	.45	180	"	166.5	89	75.5	
	2.05	200	"	167			
	.25	220	"	167			
	.45	240	"	168	89	75.5	
	3.05	260	"	169			
	.25	280	"	170			
	.45	300	"	171.5	92.2	75	
	4.05	320	"	173			
	.25	340	"	174.5			
	.45	360	"	177	87	74.5	
	5.05	380	"	181			
	.25	400	"	183			
	.45	420	"	184	89	75	
					(902)		
			Discharge		*50		
2/6	AM 5.47	—	Pm	159			
	.52	0		150			
	.52	2		142			
	.55	5		134.5			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	Solu	
2/6/09	AM 6.00	10	30	136.5			
	.10	20	"	134			
	.20	30	"	132			
	.30	40	"	131			
	.50	60	"	128	89	74.5	
	7.10	80	"	126.2			
	.30	100	"	125			
	.50	120	"	123.5	87	73.2	
	8.10	140	"	122			
	.30	160	"	121			
	.50	180	"	120.5	86	73	
	9.10	200	"	119.7			
	.30	220	"	119.5			
	.50	240	"	119.7	88	72.2	
	10.10	260	"	119.7			
	.30	280	"	119.5			
	.50	300	"	119.3	88.2	73.5	
	11.10	320	"	119.5			
	.30	340	"	109			
	.40	350	"	105			
	.50	360	"	103	90.2	73.7	
	5.47	347	"	100			-182.2

Stood 3.5 hours one Indy AJ

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Solid
2/7/19	PM		Charge 5/1			
	11.15	0	30	151	70.2	70
	.17	2	"	152		
	.20	5	"	165.5		
	.20	10	"	165		
	.25	20	"	166.5		
	.45	30	"	170.6		
	.50	40	"	170.9	74.2	70.7
	12.15	60	"	169.7		
	.30	80	"	168.1	77	71
	.55	100	"	168.1		
	1.15	120	"	168	78.5	71
	.25	140	"	168.3		
	.55	160	"	169	80	72.2
	2.15	180	"	169		
	.25	200	"	169.7	81.5	72
	.55	220	"	169.9		
	3.15	240	"	170.2	83	72.2
	.35	260	"	171.2		
	.55	280	"	172.1	84	72.7
	4.15	300	"	173		
	.35	320	"	174.2	85	73
	.55	340	"	176		
	5.25	360	"	178	86	73
	.35	380	"	180.6		

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Solid
2/10	5.55 AM	400	30	182.7	87	73.2
	6.15	420	"	184		
	.35	440	"	184.2	89	73.5
	.55	460	"	184.7		
	7.15	480	"	181	90.2	73.5
	.35	500	"	185		
	.55	520	"	185	91.5	74
	8.15	540	"	185		
	.35	560	"	1.85	91.7	74
	.55	580	"	1.85		
	9.15	600	"	1.85	92.2	74
	.35	620	"	1.85		
	.55	640	"	1.85	92.6	74
	10.15	660	"	1.85		
	.35	680	"	1.85	93.2	74
	.55	700	"	1.85		
	11.15	720	"	1.85	93.7	74
	.35	740	"	1.85		
	.55	760	"	1.85	94.5	74.2
	12.15	780	"	1.85		
	.35	800	"	1.85	94.7	74.5
	.55	820	"	1.85		
	1.15	840	"	1.847	95.0	75
	.35	860	"	1.847		
	.55	880	"	1.84	95.5	75

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	Adk	
	PM.						
2-8-09	2.15	9.00	20	1.14	76.5	76.2	
					(97.1)		
			Discharge = E				
	PM.						
2-8-09	2.18	-	20 amp	1.57			
	.20	10	20	1.52			
	.22	2	"	1.475			
	.25	5	"	1.40			
	.30	10	"	1.38			
	.40	20	"	1.355			
	.50	30	"	1.337			
	3.00	40	"	1.325	92.5	76.5	
	.20	60	"	1.30			
	.40	80	"	1.28			
	4.00	100	"	1.26	92.2	76	
	.20	120	"	1.25			
	.40	140	"	1.237			
	5.00	160	"	1.227	92.2	76	
	.20	180	"	1.217			
	.40	200	"	1.21	91.2	76	
	6.00	220	"	1.205			
	.20	240	"	1.195	92.5	76.2	
	.40	260	"	1.187			
	7.00	280	"	1.18	92.5	76	
	.20	300	"	1.175			
	.40	320	"	1.163	94.5	76.2	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	Adk.	
2-8-09	8.00	340	20	1.163			
	.20	360	"	1.138	96	76.5	
	.40	380	"	1.115			
	9.00	400	"	1.095	98	76.7	
	.20	420	"	1.082			
	.30	430	"	1.075	–		
	.40	440	"	1.00	99.5	76.5	-22.0
				Charge = E.2			
	PM						
2-8-09	9.45	0	20	1.37	99.7	76.5	
	.47	2	"	1.42			
	.50	5	"	1.459			
	.55	10	"	1.50			
	10.00	20	"	1.552			
	.15	30	"	1.58			
	.25	40	"	1.612	100	77	
	.45	60	"	1.642			
	11.05	80	"	1.642	98	78	
	.25	100	"	1.642			
	.45	120	"	1.642	96.5	78.2	
2/1.	12.05	140	"	1.65			
	.25	160	"	1.65	94	78	
	.45	180	"	1.659			
	1.05	200	"	1.662	92.7	78	
	.25	220	"	1.67			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	Dolle
2/9/09	AM 1.45	240	30	167.5	91.7	78
	2.05	260	"	167.6		
	.25	280	"	169.2	90.5	77.5
	.45	300	"	170.5		
	3.05	320	"	171.5	89.2	77
	.25	340	"	172.2		
	.45	360	"	173.5	89.5	77.2
	4.05	380	"	174.1		
	.25	400	"	175	89.5	77.7
	.45	420	"	177.7		
	5.05	440	"	180	90	77.5
	.25	460	"	182.2		
	.45	480	"	184	90.7	77
	6.05	500	"	185		
	.25	520	"	185	92	77
	.45	540	"	185.5		
	7.05	560	"	185	93.2	77.5
	.25	580	"	185		
	.45	600	"	185	94	77.7
	8.05	620	"	184.7		
	.25	640	"	184.2	94.7	77.5
	.45	660	"	185		
	9.05	680	"	184.2	95.5	77.5
	.25	700	"	184.5		
	.45	720	"	184	95.7	77.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Dolle
2/9/09	AM 10.05	740	30	184		
	.25	760	"	184	96	77.5
	.45	780	"	184.2		
	11.05	800	"	184.4	97	77.5
	.25	820	"	184.5		
	.45	840	"	184.2	97.7	77.5
	12.05	860	"	184		
	.25	880	"	184		
	.45	900	"	184	98.2	77.5
					(943)	
				Discharge #52		
2/9	PM 12.48	—	open	1.59		
	1.50	6	30	1.54		
	.52	12	"	1.422		
	.55	15	"	1.397		
	1.00	10	"	1.375		
	.10	20	"	1.382		
	.20	30	"	1.335		
	.30	40	"	1.32	96	78
	.50	60	"	1.293		
	2.10	80	"	1.275	95.5	78
	.30	100	"	1.257		
	.50	120	"	1.245	94.2	78
	3.10	140	"	1.232		
	.30	160	"	1.222	93.2	78.2

DATE	TIME	MIN.	AMP	VOLTS ← 398	TEMP ← 398	TEMP ← date	
2/9/09	PM 3.50	180	30	1.217			
	4.10	200	"	1.205	93	78.2	
	.30	220	"	1.20			
	.50	240	"	1.192	93	78.2	
	5.10	260	"	1.185			
	.30	280	"	1.177	92	78.2	
	.50	300	"	1.172			
	6.10	320	"	1.155	92.2	78.2	
	.30	340	"	1.14			
	.50	360	"	1.125	94.5	78	
	7.10	380	"	1.102			
	.30	400	"	1.08	94.7	78	
	.40	410	"	1.05			
	.50	420	"	1.02			
	8.00	430	"	1.00	96	78	-215
				Charge 53.			-420 first min
2-9-09	PM 5.20	0	20	1.36	96	78	
	.22	2	"	1.44	94		
	.25	5	"	1.46			
	.30	10	"	1.505			
	.40	20	"	1.555			
	.50	30	"	1.597			
	6.00	40	"	1.627	94	78	
	.30	100	"	1.65			

DATE	TIME	MIN.	AMP	VOLTS ← 398	TEMP ← 398	TEMP ← date	
2-9-09	PM 9.40	90	20	1.652	94	78	
	10.00	100	"	1.645			
	.20	120	"	1.65	93.5	78	
	.40	140	"	1.652			
	11.00	160	"	1.655	92.5	78	
	.20	180	"	1.66			
	.40	200	"	1.665	91.5	79	
2/	AM 12.00	220	"	1.67			
	.20	240	"	1.67	91	79.2	
	.40	260	"	1.67			
	1.00	280	"	1.67	90.5	79.2	
	.20	300	"	1.70			
	.40	320	"	1.71	90.5	79	
	2.00	340	"	1.72			
	.20	360	"	1.73	90.2	79	
	.40	380	"	1.74.2			
	3.00	400	"	1.76	90.7	79	
	.20	420	"	1.78.2			
	.40	440	"	1.81	91.5	78.5	
	4.00	460	"	1.82.2			
	.20	480	"	1.84	92.5	78.2	
	.40	500	"	1.85			
	5.00	520	"	1.84.5	93.5	78	
	.20	540	"	1.85			
	.40	560	"	1.815	94	78	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP fulle	
2/10/09	AM 6.00	580	30	185			
	.20	600	"	185	95	78	
	.40	620	"	185			
	7.00	640	"	185	95.5	78	
	.20	660	"	185			
	.40	680	"	185	94.5	77	
	8.00	700	"	185			
	.20	720	"	185	94	77	
	.41	741	"	1.85			
	9.00	760	"	185	94.5	76.5	
	.20	780	"	185			
	.40	800	"	1.85	94	765	
	1.00	820	"	1.85			
	20	840	"	1.85	93.2	76	
	40	860	"	1.85			
	11.00	880	"	1.855	92	75	
	20	900	"	1.857	917	745	-15 hrs.
					928		
				Discharge	#	53	
2/10	AM 11.23	—	ohm	1.60			
	1.35	0	30	1.502			
	27	2	"	1.43			
	30	5	"	1.395			
	35	10	"	1.377			
	40	20	"	1.357			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Fulle	
2/11/09	AM 11.55	20	30	1.337			
	12.05	40	"	1.317			
	.25	60	"	1.297	91.5	73	
	.45	80	"	1.277	91.2	73	
	1.05	100	"	1.257			
	.25	120	"	1.243	93.5	73	
	.45	140	"	1.232			
	2.05	160	"	1.222	92.5	73	
	.25	180	"	1.217			
	.45	201	"	1.207	90.5	732	
	3.05	220	"	1.20			
	.25	240	"	1.195	92.5	735	
	.45	260	"	1.191			
	4.05	280	"	1.178	91.2	737	
	.25	300	"	1.167			
	.45	320	"	1.157	92.5	74	
	5.05	340	"	1.143			
	.25	360	"	1.135	93.2	74	
	.45	380	"	1.07			
	6.05	400	"	1.08	94	74	
	.25	420	"	1.062			
	.25	425	"	1.035			
	.35	430	"	1.009			
	.45	433	"	1.00	94	74	-7.16.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP old	
				Charge # 54			
2-10-09	PM. 6.45	0	20	1.36	95	74	
	.47	2	"	1.42			
	.50	5	"	1.459			
	.55	10	"	1.495			
	7.05	20	"	1.552			
	.15	30	"	1.59			
	.25	40	"	1.615			
	.40	60	"	1.645	93	72.5	
	8.05	80	"	1.652			
	.25	100	"	1.652			
	.45	120	"	1.655	90.5	73	
	9.05	140	"	1.657			
	.25	160	"	1.660			
	.45	180	"	1.66	89.2	73	
	10.05	200	"	1.665			
	.25	220	"	1.673			
	.45	240	"	1.68	87	73	
	11.05	260	"	1.685			
	.25	280	"	1.697			
	.45	300	"	1.71			
2/11	AM 12.05	320	"	1.72			
	.25	340	"	1.73			
	.45	360	"	1.74	86	73	
	1.05	380	"	1.75			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP old	
2/11/09	AM 1.25	400	20	1.77			
	.45	420	"	1.79			
	2.05	440	"	1.82			
	.25	460	"	1.84			
	.45	480	"	1.85	90.5	74	
	3.05	500	"	1.85			
	.25	520	"	1.85			
	.45	540	"	1.85			
	4.05	560	"	1.85			
	.25	580	"	1.854			
	.45	600	"	1.859	92.2	72.5	
	5.05	620	"	1.854			
	.25	640	"	1.85.5			
	.45	660	"	1.85	94	74	
	6.05	680	"	1.85			
	.25	700	"	1.85			
	.45	720	"	1.85.5	93.2	72.5	- 12 hrs.
					(90.5)		
4/11				Discharge 54			
	AM 6.48	=	open	1.59.7			
	.50	0	30	1.52			
	.52	2	"	1.43			
	.55	5	"	1.39.7			
	7.00	10	"	1.37.4			
	.10	20	"	1.34.5			

DATE	TIME	MIN	AMPS	VOLTS	TEMP 398	TEMP 398	TEMP Hole
2/11/09	AM 7.20	30	30	1.372			
	.30	40	"	1.372			
	.50	60	"	1.297	92.7	72	
	8.10	80	"	1.222			
	.30	100	"	1.26			
	.50	120	"	1.243	89.7	72.7	
	9.10	140	"	1.222			
	.30	160	"	1.222			
	.50	180	"	1.217	89.2	73	
	10.10	200	"	1.209			
	.30	220	"	1.20			
	.50	240	"	1.193	88.5	73	
	11.10	260	"	1.185			
	.30	280	"	1.175			
	.50	300	"	1.165	88.3	73	
	PM 12.10	320	"	1.153			
	.30	340	"	1.14			
	.50	360	"	1.12	91	72.5	
	1.10	380	"	1.10			
	.30	400	"	1.072			
	.50	420	"	1.03	93.7	72.5	
	2.00	430	"	1.00			-215
	10	440	"	.957			-220

DATE	Time	Min.	Amp	Volts 398	Temp 398	Temp Hole
			Charge	55		
2/11/09	PM 2.30	0	30	1.38	96.3	73.2
	.32	2	"	1.437		
	.35	5	"	1.465		
	.40	10	"	1.50		
	.50	20	"	1.555		
	300	30	"	1.595		
	.10	40	"	1.62		
	.30	60	"	1.652		
	.50	80	"	1.655	92.5	73.5
	4.10	100	"	1.652		
	.30	120	"	1.652	89.5	73
	.50	140	"	1.657		
	5.10	160	"	1.66		
	.30	180	"	1.662	88	73.2
	.50	200	"	1.667		
	6.10	220	"	1.672		
	30	240	"	1.677	87.5	73.2
	.50	260	"	1.682		
	7.10	280	"	1.69		
	30	300	"	1.70	88	73
	.50	320	"	1.77		
	8.10	340	"	1.73		
	30	360	"	1.735	89	73.5
	.50	380	"	1.74		

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMP 39.8	Side	
2/11/09	PM 9.10	400	20	1.752			
	.30	420	"	1.775	99.5	74.2	
	.50	440	"	1.807			
	10.10	460	"	1.83			
	.30	480	"	185	90	75	
	.50	500		1.851			
	11.10	520	"	1.852			
	.30	540		1.867	90.5	75	
	.50	560		1.857			
2/12	AM 12.10	580	"	185			
	.30	600	"	185	93.2	75	
	.50	620	"	185			
	1.10	640	"	185			
	.30	660	"	185	94.2	75.2	
	.50	680	"	184.7			
	2.10	700	"	184.1			
	.30	720		184	95	77	12 hrs
					9.19		
2/12	AM			Discharge	55		
	2.33	—	0/	165.9			
	.35	0	30	151			
	.37	2	"	142.1			
	.40	5	"	139			
	.45	10	"	137			
	.50	20	"	135.6			

DATE	TIME	MIN	AMP	VOLTS 39.8	TEMP 39.8	Side	
2/12/09	AM 3.05	30	30	133.5			
	.10	40	"	132			
	.35	60	"	129.8	98	78	
	.55	80	"	127.7			
	4.15	100	"	126.1			
	.35	120	"	125	97.7	78	
	.55	140	"	123.7			
	5.15	160	"	123			
	.35	180	"	122.1	97	78	
	.55	200	"	121.5			
	6.15	220	"	120.7			
	.35	240	"	120	98	76.7	
	.55	260	"	119			
	7.15	280	"	118.1			
	.35	300	"	117.2	95.2	76.7	
	.55	320	"	116.1			
	8.15	340	"	115			
	.35	360	"	112.2	95	76	
	.55	380	"	111			
	9.15	400	"	108			
	.35	410	"	1.055			
	.35	420	"	1.032	99	76	
	.45	430	—	1.00	99.5	76	21.5

DATE	TIME	MIN.	AMPS	VOLTS	TEMP. 398	TEMP. Idle
				Charge # 56		
2/12/09	AM 10 30	0	30	1.465	97	77
	32	2	"	1.457		
	35	5	"	1.48		
	40	10	"	1.517		
	50	20	"	1.565		
	11 00	30	"	1.59		
	10	40	"	1.63		
	30	60	"	1.657	94.7	76.5
	50	80	"	1.65		
	12 10	100	"	1.65		
	30	120	"	1.647	92.2	76.2
	50	140	"	1.647		
	1 10	160	"	1.652		
	30	180	"	1.66	91.2	76.5
	50	200	"	1.665		
	2 10	220	"	1.67		
	30	240	"	1.677	89.2	76
	50	260	"	1.68		
	3 10	280	"	1.685		
	30	300	"	1.70	89.5	76
	50	320	"	1.71		
	4 10	340	"	1.722		
	30	360	"	1.737	87.7	75
	50	380	"	1.757		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle
	PM					
2/12/09	5 10	400	30	1.77		
	30	420	"	1.797	88.5	74.5
	50	440	"	1.82		
	6 10	460	"	1.84		
	30	480	"	1.865	91.5	74.2
	50	500	"	1.849		
	7 10	520	"	1.845		
	30	540	"	1.847	92.5	74.7
	50	560	"	1.865		
	8 10	580	"	1.862		
	30	600	"	1.862	92.5	75.7
	50	620	"	1.84		
	9 10	640	"	1.84		
	30	660	"	1.84	92	76.2
	50	680	"	1.84		
	10 10	700	"	1.84		
	30	720	"	1.84	89.2	75 = 12 hrs. @ 30
					92.7	
2/12	PM			Discharge		56
	10 33	=	for	1.677		
	35	0	30	1.505		
	37	2	"	1.42		
	40	5	"	1.29		
	45	10	"	1.21		
	50	20	"	1.36		

DATE	TIME	MIN.	AMP	VOLTS 39%	TEMP 39%	TEMP Solder	
2/12/17	PM 11.05	30	30	135.1			
	.15	40	"	132.7			
	.35	60	"	131	97.2	76.5	
	.55	80	"	129			
2/13	AM 12.15	100	"	127			
	.35	120	"	125.2	95	76.5	
	.55	140	"	124			
	1.15	160	"	123			
	.35	180	"	122.2	94	76.2	
	.55	200	"	121.7			
	2.15	220	"	121			
	.35	240	"	120	93	75	
	.55	260	"	119			
	3.15	280	"	118.2			
	.35	300	"	117.7	92.5	74.5	
	.55	320	"	116.2			
	4.15	340	"	115			
	.35	360	"	113.8	93.7	74	
	.55	380	"	111.6			
	5.15	400	"	109			
	.35	420	"	107.7			
	.55	440	"	105	93	72.2	
	.55	430	"	106.6			
	.55	439	"	100	92	72	-219.7

DATE	TIME	MIN	AMP	VOLTS 39%	TEMP 39%	TEMP Solder	
	Stood 47 hours over Saturday.						
2/15/17	6 AM		Charge			57	
	5.00	0	30	150	75	75.7	
	.02	2	"	157			
	.05	5	"	160			
	.10	10	"	163			
	.20	20	"	167			
	.30	30	"	169.1			
	.40	40	"	170.1			
	6.00	60	"	169	79.2	75.7	
	.20	80	"	168.6			
	.40	100	"	168.1			
	7.00	120	"	168	82	72	
	.20	140	"	168.1			
	.40	160	"	168.5			
	8.00	180	"	169	83.2	75.7	
	.20	200	"	169			
	.40	220	"	169.7			
	9.00	240	"	170	83.2	75	
	.20	260	"	171			
	.40	280	"	172.7			
	10.00	300	"	172.2	83.7	74.5	
	.20	320	"	173			
	.40	340	"	173.7			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Bulb	
2/15/09	A.M. 11.00	360	30	1.75	84.2	74.5	
	.20	380	"	1.76			
	.40	400	"	1.772			
	P.M. 12.00	420	"	1.795	87	74.5	
	.20	440	"	1.815			
	.40	460	"	1.837			
	1.00	480	"	1.85	90	75	
	.20	500	"	1.852			
	.40	520	"	1.86			
	2.00	540	"	1.86	91	75	
	.20	560	"	1.85			
	.40	580	"	1.855			
	3.00	600	"	1.855	92.5	75	-10 hrs.
					(84.6)		
			Discharge		T 87		
2-15-09	P.M. 3.03	—	open	1.595			
	.05	0	30	1.52			
	.07	2	"	1.42			
	.10	5	"	1.397			
	.15	10	"	1.377			
	.25	20	"	1.357			
	.35	30	"	1.337			
	.45	40	"	1.327			
	4.05	60	"	1.275	92.7	75	
	.35	90	"	1.275			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP bulb	
2/15/09	P.M. 4.45	100	30	1.265			
	5.05	120	"	1.25	92	75.5	
	.25	140	"	1.237			
	.45	160	"	1.225			
	6.05	180	"	1.22	92	75	
	.25	200	"	1.213			
	.45	220	"	1.209			
	7.05	240	"	1.20	93	76	
	.25	260	"	1.195			
	.45	280	"	1.192			
	8.05	300	"	1.177	93	76	
	.25	320	"	1.163			
	.45	340	"	1.147			
	9.05	360	"	1.133	95.5	76.2	
	.25	380	"	1.112			
	.45	400	"	1.067			
	10.05	420	"	1.02	97.7	76.2	
	.15	426	"	100	98		-212.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP. 398	TEMP. Wbb	
				Charge		58	
	PM.						
2-15-09	10.15	0	30	126	98	762	
	.17	2	"	142		–	
	.20	5	"	144			
	.25	10	"	149			
	.35	20	"	1.546			
	.45	30	"	1.58			
	.55	40	"	161.2			
	11.15	60	"	164.6	92	765	
	.35	80	"	165			
	.55	100	"	165			
	AM						
2/16	12.15	120	"	165	94	76	
	.35	140	"	165.7			
	.55	160	"	165.8			
	1.15	180	"	166	91.7	75.5	
	.35	200	"	166.2			
	.55	220	"	167			
	2.15	240	"	167.5	91.5	76.2	
	.35	260	"	168			
	.55	280	"	169			
	3.15	300	"	169.8	91	77	
	.35	320	"	170.9			
	.55	340	"	171.8			
	4.15	360	"	172.6	90.5	77.2	
	.35	380	"	173.3			

DATE	TIME	MIN	AMP.	VOLTS 398	TEMP. 398	TEMP. Wbb	
2/14/09	AM 4.55	400	30	174.8			
	5.15	420	"	176.5	92	77	
	1.35	440	"	179			
	.55	460	"	181.8			
	6.15	480	"	184.1	91.5	76.4	
	.35	500	"	184.9			
	.55	520	"	185.1			
	7.15	540	"	185	92.5	75	
	.35	560	"	185			
	.55	580	"	185			
	8.15	600	"	185	94	75.5	-10 hrs.
					(931)		
				Discharge			54
2/14	AM 8.18	—	open	159			
	.20	0	30	151			
	.22	2	"	144			
	.25	5	"	139.9			
	.30	10	"	137.8			
	.40	20	"	135.7			
	.52	32	"	133.7			
	9.00	40	"	132.2			
	.20	60	"	129.5	93	75.5	
	.40	80	"	127.7			
	10.00	100	"	126			
	.20	120	"	125	94.7	75	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Cable	
2/16/09	AM 10.40	140	30	1.235			
	11.02	162	"	1.225			
	.20	180	"	1.22	91	75	
	.40	200	"	1.21			
	P.M. 1.00	220	"	1.205			
	.20	240	"	1.20	91	75	
	.40	260	"	1.192			
	1.00	280	"	1.18			
	.20	300	"	1.167	93	75	
	.40	320	"	1.157			
	2.00	340	"	1.14			
	.20	360	"	1.12	93.7	75	
	.40	380	"	1.095			
	3.00	400	"	1.085			
	.10	410	"	1.07			
	.17	417	"	1.00	95.5	75.2	-20.85
				Change # 59			
2-16-09	PM 3.50	0	20	1.42	94	75	
	.52	2	"	1.46			
	.58	5	"	1.48			
	4.00	10	"	1.515			
	.10	20	"	1.585			
	.20	30	"	1.62			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP cable	
2-16-09	PM 4.50	40	20	1.63			
	.60	60	"	1.657	93.2	75.2	
	5.10	80	"	1.64			
	.30	100	"	1.657			
	.50	120	"	1.665	91.2	75	
	6.10	140	"	1.657			
	.30	160	"	1.657			
	.50	180	"	1.662	90	75	
	7.10	200	"	1.665			
	.30	220	"	1.675			
	.50	240	"	1.68	88.7	75.5	
	8.10	260	"	1.685			
	.30	280	"	1.70			
	.50	300	"	1.705	88.7	76	
	9.10	320	"	1.715			
	.30	340	"	1.725			
	.50	360	"	1.727	90	76.5	
	10.10	380	"	1.75			
	.30	400	"	1.775			
	.50	420	"	1.802	91.5	77.5	
	11.10	440	"	1.829			
	.30	460	"	1.846			
	.50	480	"	1.865	91.5	75.5	
2/17	AM 12.10	5.00	"	1.865			
	.30	520	"	1.865			

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	Jelle	
2/17/09	AM 12.50	500	30.	185	92.2	74.5	
	1.10	560	"	185.2			
	.30	580	"	185			
	.50	600	"	185	93.2	74.2	
					(Max)		
				Discharge		=	59
2/17	AM 1.50	—	30	159			
	.55	0	30	151			
	2.00	2	"	143			
	2.00	5	"	139.2			
	.05	10	"	137.7			
	.15	20	"	135.1			
	.25	30	"	133.7			
	.35	40	"	131.9			
	.55	60	"	129.4	91.2	73.5	
	3.15	80	"	127.4			
	.35	100	"	125.9			
	.55	120	"	124.1	90	73.2	
	4.15	140	"	123.5			
	.35	160	"	122.2			
	.55	180	"	121.5	91	74	
	5.15	200	"	121			
	.35	220	"	120.2			
	.55	240	"	120	93	74.5	
	6.15	260	"	119			

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	Jelle	
2/17/09	AM 6.35	280	30	118.3			
	.55	300	"	117.1	94	74.7	
	7.15	320	"	116			
	.35	340	"	114.7			
	.55	360	"	112.7	93	74	
	8.15	380	"	110			
	.35	400	"	106.9			
	.45	410	"	104			
	.56	421	"	100.3			
	.58	423	"	100	91.5	72.5	-211.5
				Charge	# 60		Ohm & Sw
2/17/09	AM 9.15	0	30	1.40	92.2	72.5	
	.17	2	"	1.45			
	.25	5	"	1.472			
	.35	10	"	1.51			
	.35	20	"	1.56			
	.45	30	"	1.597			
	.55	40	"	1.62			
	10.15	60	"	1.65	93.2	73.5	
	10.38	73	"	1.657			
	10.55	100	"	1.655			
	11.17	122	"	1.65	89.7	73	
	.35	140	"	1.66			

Date	Time	MIN	Amp 398	Volts 398	Temp 398	Temp Cable	
9/17/8	AM 11:50	160	30	1.66			
	PM 12:15	180	"	1.665			
	.35	200	"	1.67			
	.55	220	"	1.677	88	74.5	
	1:15	240	"	1.68	87.5	74.5	
	.35	260	"	1.69			
	.55	280	"	1.697			
	2:15	300	"	1.707	88.2	74.5	
	.35	320	"	1.717			
	.55	340	"	1.723			
	3:15	360	"	1.725	86.5	74.5	
	.35	380	"	1.727			
	.55	400	"	1.72			
	4:15	420	"	1.72.7	87	75.5	
	.35	440	"	1.732			
	.55	460	"	1.737			
	5:15	480	"	1.75	87.5		-8 hrs
					Temp		
				Discharge	# 60		
2/17/9	PM 5:18	-		open	159		
	.20	20	30	1.20			
	.35	35	"	1.437			
	.55	55	"	1.397			
	30	10	"	1.37			
	.40	40	"	1.347			

Date	Time	Min.	Amp.	Volts 398	Temp 398	Temp cable	
	.50	30	30	1.325			
	6.00	40	"	1.20			
	.20	60	"	1.225	90	75	
	.40	80	"	1.267			
	7.00	100	"	1.255			
	.20	120	"	1.24	91.5	75	
	.40	140	"	1.23			
	8.00	160	"	1.22			
	.20	180	"	1.213	91.7	75	
	.40	200	"	1.205			
	9.00	220	"	1.20			
	.20	240	"	1.195	93	74.7	
	.40	260	"	1.185			
	10.00	280	"	1.177			
	.20	300	"	1.163	93.7	74.5	
	.40	320	"	1.147			
	11.00	340	"	1.13			
	.20	360	"	1109	95.2	74.5	
	.40	380	"	1.03			
	.50	390	"	108.4			
2/1	AM 12.30	400	"	1.09			
	.00	403	"	100	96.2	7.4	-201.5

DATE	TIME	MIN	AMP	VOLTS 32F	TEMP. 32F	Bolts	
2/14/							
	AM 12.22	0	30	138	92	74	
	.22	2	"	144.2			
	.25	5	"	144.1			
	.30	10	"	147.8			
	.40	20	"	151			
	.50	30	"	159			
	1.00	40	"	162			
	.20	60	"	165	94	74	
	.40	80	"	165.1			
	2.00	100	"	165			
	.20	120	"	165	92	74	
	.40	140	"	165.4			
	3.00	180	"	165.9			
	.20	200	"	166.2	89	73.5	
	.40	220	"	166.8			
	4.00	240	"	167.2			
	.20	260	"	168	88	73.2	
	.40	280	"	169			
	5.00	300	"	169.9			
	.20	320	"	170.9	87.5	73.2	
	.40	340	"	172.5			
	6.00	360	"	172.3			
	.20	380	"	174	87.7	73.2	
	.40	400	"	175.5			

DATE	TIME	MIN	AMP.	VOLTS 32F	TEMP. 32F	Bolts	
2/15/72	AM 7.00	420	30	178.3			
	.20	440	"	181.1	88	73	
	.40	460	"	184			
	8.00	480	"	185			
	.20	500	"	185.4	89.5	72.5	-8 hrs.
					(89.2)		
				Discharge #61			
2/16	AM 8.22	-	Open	159.2			
	.25	0	30	151			
	.27	2	"	142.6			
	.30	5	"	139			
	.35	10	"	137			
	.45	20	"	134.6			
	.55	30	"	133			
	9.07½	37½	"	131			
	.25	60	"	128.7	89.5	73.3	
	.45	80	"	127			
	10.05	100	"	125.5			
	.25	120	"	124	89.7	73	
	.45	140	"	123			
	11.05	160	"	122			
	.25	180	"	121.5	90.2	73.2	
	.45	200	"	120.5			
	PM 12.05	220	"	120			
	.25	240	"	119.2	91.5	73.3	

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS Idle	
2/14/09	PM 1.45	260	30	1.165			
	1.05	280	"	1.175			
	25	300	"	1.16	95.5	74.2	
	.45	320	"	1.142			
	2.05	340	"	1.135			
	25	360	"	110	95	75	
	45	380	"	106			
	50	385	"	104			
	55	390	"	102.7			
	3.00	395	"	1.05			
	3.03	398	"	100	95	75.5	-1.09
				Charge #62			
2-18-09	PM 3.15	0	30	1.345	94.7	75.2	
	.17	2	"	1.425			
	20	5	"	1.445			
	25	10	"	1.495			
	.35	20	"	1.547			
	.45	30	"	1.587			
	.55	40	"	1.615			
	4.15	60	"	1.645	94	75.2	
	35	80	"	1.647			
	55	100	"	1.647			
	5.15	120	"	1.647	91.5	75.1	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Idle	
2-18-09	PM 5.35	140	30	1.65			
	55	160	"	1.655			
	6.15	180	"	1.66	89	75	
	.35	200	"	1.665			
	.55	220	"	1.67			
	7.15	240	"	1.68	89	75.2	
	.35	260	"	1.685			
	.55	280	"	1.695			
	8.15	300	"	1.705	89.5	75.5	
	.35	320	"	1.715			
	.55	340	"	1.725			
	9.15	360	"	1.74	89	75.5	
	.35	380	"	1.76			
	.55	400	"	1.79			
	10.15	420	"	1.82	90	75.9	
	.35	440	"	1.84			
	.55	460	"	1.847			
	11.15	480	"	1.85	92	76	- 8 hrs.
					90.4		
2/11				Discharge		62	
	PM 11.18	—	4pm	1.59			
	.20	0	30	1.51			
	.22	2	"	1.42			
	.25	5	"	1.39			
	.35	11	"	1.32			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP dble	
2/18/59	PM 11.40	20	30	134.9			
	50	30	"	133.1			
2/19	AM 12.00	40	"	131.6			
	.20	60	"	129	92	75	
	.40	80	"	127			
	1.00	100	"	125.4			
	.20	120	"	124.1	91.5	76	
	.40	140	"	123			
	2.00	160	"	122.1			
	.20	180	"	121.2	91	76	
	.40	200	"	121			
	3.00	220	"	120.2			
	.20	240	"	119.5	91	75	
	.40	260	"	118.5			
	4.00	280	"	117.7			
	.20	300	"	116	91	74.5	
	.40	320	"	114			
	5.00	340	"	112			
	.20	360	"	109.9	91	74	
	.40	380	"	106.2			
	5.50	390	"	103.2			
	6.00	400	"	100	93	74	-200

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP dble	
2/19/59				Charge			62
	AM 6.20	0	70	139	92.5	73.7	
	.22	2	"	144			
	.25	5	"	147			
	.30	10	"	150.3			
	.40	20	"	155.7			
	.50	30	"	159.1			
	7.00	40	"	162.5			
	.20	60	"	165	92	74	
	.40	80	"	165.4			
	8.00	100	"	166			
	.20	120	"	166.7	89	72.2	
	.40	140	"	166			
	9.00	160	"	166.2			
	.20	180	"	166.7	87	76.2	
	.40	200	"	169.2			
	10.00	220	"	167.7			
	10.20	240	"	168.5	85.7	73.2	
	10.40	260	"	169.5			
	11.00	280	"	170.5			
	.20	300	"	171.7	85	72.7	
	.40	320	"	172.7			
	12.00	340	"	174			
	.20	360	"	175.7	84.2	72	
	.40	380	"	178			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 1 398	TEMP. 1 elder	
2-19-09	PM. 1.00	400	30	1.21			
	.20	420	"	1.44	85.5	72	7 hrs.
					836		
			Discharge #63				
2-19-09	PM. 1.23	—	spray	1.587			
	.25	0	30	1.584			
	.27	2	"	1.425			
	.30	5	"	1.355			
	.35	10	"	1.36			
	.45	20	"	1.237			
	.55	30	"	1.32			
	2.05	40	"	1.305			
	.25	60	"	1.28	87	72	
	.45	80	"	1.26			
	3.05	100	"	1.245			
	.25	120	"	1.237	87	72.5	
	.45	140	"	1.225			
	4.05	160	"	1.22			
	.25	180	"	1.212	88	73	
	.45	200	"	1.202			
	5.05	220	"	1.197			
	.25	240	"	1.187	89.2	73	
	.45	260	"	1.177			
	6.05	280	"	1.16			
	.25	300	"	1.145	90.5	73.2	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP. 398	TEMP. elder	
2-19-09	PM. 6.45	320	30	1.13			
	7.05	340	"	1.10			
	.15	350	"	1.08			
	.25	360	"	1.057	92	73.5	
	.30	365	"	1.04			
	.35	370	"	1.023			
	.40	375	"	1.005			
	.40	376	"	1.00	92.5	73.5	-1.837
			Charge #64				
2-19-09	PM. 8.00	0	30	1.38	92.5	73.2	
	.02	2	"	1.44			
	.05	5	"	1.465			
	.10	10	"	1.505			
	.20	20	"	1.565			
	.30	30	"	1.597			
	.40	40	"	1.62			
	9.00	60	"	1.653	90.7	73	
	.20	80	"	1.655			
	.40	100	"	1.655			
	10.00	120	"	1.66	89.2	72.7	
	.20	140	"	1.66			
	.40	160	"	1.662			
	11.00	180	"	1.662	89	73.5	

DATE	TIME	MIN.	AMP.	VOLT. 39R	TEMP. 39R	TEMP. 90R	
2-19-09	PM 1120	200	30	167			
	AM 1140	220	"	169.9			
2/20	12.00	240	"	169.6	86	72.2	
	.20	260	"	169.9			
	.40	280	"	170.6			
	1.00	300	"	171.8	86.5	72.25	
	.20	320	"	172.7			
	.40	340	"	174.3			
	2.00	360	"	176	86.5	72.2	
	.20	380	"	179			
	.40	400	"	182			
	3.00	420	"	183.2	88		= 7 hrs.
					(883)		
2/20	AM		Discharge			64	
	3.05	—	30	159			
	.05	0	30	150			
	.07	2		141.8			
	.20	5	"	137.9			
	.35	10	"	136.1			
	.35	20	"	132.8			
	.50	30	"	132			
	.50	40	"	130.5			
	4.05	60	"	128	88.2	73	
	.25	80	"	126			
	.45	100	"	125			

DATE	TIME	MIN	AMP.	VOLT. 39R	TEMP. 39R	TEMP. 90R	
2/20	AM 5.05	120	30	123.5	89.7	72.5	
	.25	140	"	123			
	.45	160	"	122.2			
	6.05	180	"	121.5	90.5	72.7	
	.25	200	"	120.5			
	.45	220	"	119.9			
	7.05	240	"	119	90	72.7	
	.25	260	"	117.8			
	.45	280	"	116.2			
	8.05	300	"	114.7	89	72.5	
	.25	320	"	113.5			
	.45	340	"	111.0			
	9.05	360	"	105.5	89.2	72	
	.15	365	"	104.2			
	.15	370	"	102.7			
	.20	375	"	100.7			
	.22	377	"	100	90.5	71.7	= 18.85
			Charge #65				
2/20	AM 9.35	0	30	138	90.5	71.7	
	.37	2	"	1.434			
	.40	5	"	1.462			
	.45	10	"	1.50			
	.55	20	"	1.557			

DATE	TIME	MIN.	AMP	VOLTS 39P	TEMP 39P	TEMP elbow
2-20-09	AM 10.05	20	30	1.60		
	.15	40	"	1.625		
	.35	60	"	1.65.5	89.5	72.2
	.55	80	"	1.657		
	11.15	100	"	1.657		
	35	120	"	1.657	88	75
	.55	140	"	1.657		
	PM 12.15	160	"	1.66		
	.35	180	"	1.662	86.5	70.2
	.55	200	"	1.67		
	1.15	220	"	1.675		
	35	240	"	1.68	85.5	72
	.55	260	"	1.69.2		
	2.15	280	"	170		
	.35	300	"	1.717	86.5	72
	.55	320	"	1.727		
	3.15	340	"	1.745		
	.35	360	"	1.762	87.2	72.5
	.55	380	"	1.80		
	4.15	400	"	1.835		
	.35	420	"	1.84	88.5	73.5 off line
					87.8	
	Stove changed 32 hours					

DATE	TIME	MIN	AMP	VOLTS 39P	TEMP 39P	TEMP elbow
	AM	Discharge #65.				
2/27/92	.30	—	open	147.5		
	.35	0	30	132	76	75.2
	.37	2	"	131		
	.40	5	"	129		
	.45	10	"	128		
	.55	20	"	127.2		
	1.05	30	"	127.1		
	.15	40	"	124.2		
	.35	60	"	123	81.5	76
	.55	80	"	122.2		
	2.15	100	"	121.7		
	.35	120	"	121.2	85.7	76.5
	.55	140	"	120.2		
	3.15	160	"	120		
	.35	180	"	119	89	76.5
	.55	200	"	118.2		
	4.15	220	"	117.5		
	.35	240	"	116.5	91	76.5
	.55	260	"	116.2		
	5.15	280	"	113.7		
	.35	300	"	111.9	92.5	76
	.55	320	"	110.7		
	.65	330	"	109.3		
	6.05	340	"	107.7		

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS. 398	1016	
2/22/19	A.M. 8.15	340	30	105			
	12.5	350	"	102.2			
	31/2	350	"	100	74.5	75.5	-179.2
2/22			Discharge	= 66.			
	A.M. 6.40	0	30	135	74.5	75.5	
	.42	2	"	141.2			
	.45	5	"	145			
	.50	10	"	147.1			
	7.00	20	"	154.2			
	.10	30	"	158.2			
	.20	40	"	161.5			
	.40	60	"	164.5	74.5	75.5	
	8.00	80	"	164.7			
	20	100	"	164.7			
	40	120	"	164.7	94	75.5	
	9.00	140	"	165			
	20	160	"	165.2			
	40	180	"	165.7	90.5	76	
	10.00	200	"	166.2			
	20	220	"	167			
	40	240	"	167.7	88.7	75	
	11.00	260	"	168.7			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	016	
2/22	A.M. 11.00	280	30	170			
	40	300	"	171.2	87.5	75	
	P.M. 12.00	320	"	172			
	20	340	"	173.7			
	40	360	"	173.7	87.7 (90.9)	74.7	-6 hrs.
2/22			Discharge	# 66			
	P.M. 12.43	—	Amp	157.2			
	12.45	0	30	150			
	.47	2	"	141.2			
	.50	5	"	137.7			
	.55	10	"	135.2			
	1.05	20	"	132.7			
	.15	30	"	131			
	.25	40	"	129.5			
	.45	60	"	127.2	87.2	74	
	2.05	80	"	125.2			
	.25	100	"	123.7			
	.45	120	"	122.5	84.7	72	
	3.05	140	"	121.5			
	.25	160	"	120.7			
	.45	180	"	119.7	85	72	
	4.05	200	"	119			
	.25	220	"	118.5			
	.45	240	"	118.2	86.2	71	

DATE	TIME	MIN.	AMP	VOLTS	TEMP. 398	TEMP. Atlas	
7-2	PM. 5 05	260	30	1145			
	15	270	"	1137			
	25	280	"	1127			
	35	290	"	1105			
	45	300	"	1097	90	72.2	
	55	310	"	1097			
	6.05	320	"	1065			
	.15	330	"	1037			
	.20	335	"	1.02			
	.25	340	"	1.00	92.5	73	2170
				Charge		69	
2-22-09	PM 6.40	0	30	1.36	99.7	73	
	.42	2	"	1.42			
	.45	5	"	1.45			
	.50	10	"	1.50			
	7.00	20	"	1.56			
	.10	30	"	1.62			
	.20	40	"	1.66			
	.40	60	"	1.65	90.7	73.2	
	8.00	80	"	1.655			
	.20	100	"	1.652			
	.40	120	"	1.65	90	72.5	
	9.00	140	"	1.647			

DATE	TIME	MIN.	AMP	VOLTS	TEMP. 398	TEMP. Atlas	
2-22-09	9.20	160	30	1.66			
	.40	180	"	1.663	90	73.5	
	10.00	200	"	1.665			
	.20	220	"	1.675			
	.40	240	"	1.685	89.5	75	
	11.00	260	"	1.70			
	.20	280	"	1.715			
	.40	300	"	1.72.5	88.7	75.5	
2-23-09	PM 12.00	320	"	1.74.2			
	.20	340	"	1.75.5			
	.40	360	"	1.75.2	89.5	75.5	afternoon
7/22	AM			Discharge	997	67	
	12.45	—		from 157.4			
	.45	0	30	145.5			
	.47	2	"	141.5			
	.50	5	"	137.7			
	.55	10	"	135.1			
	1.05	20	"	133.1			
	.15	30	"	131.			
	.25	40	"	129.9			
	.45	60	"	127.5	89.7	75.5	
	2.05	80	"	125.9			
	.25	100	"	124.1			
	.45	120	"	123	89	74.7	

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP 1245	
2/23/99	2.05	140	30	122.1			
	.25	160	"	121.4			
	.45	180	"	120.2	89	74.5	
	3.05	200	"	119.7			
	.25	220	"	118.5			
	.45	240	"	117.2	89.5	74.5	
	5.05	260	"	115.8			
	.25	280	"	112.2			
	.45	300	"	111.7	91.7	75	
	6.05	320	"	108			
	.15	330	"	105.5			
	.25	340	"	102.5			
	.32	347	"	100	92.2	75	-17.35
2/22	AM			Charge			L.R.
	6.40	0	30	136	93	75	
	.42	2	"	142.1			
	.45	5	"	146.1			
	.50	10	"	149.5			
	7.00	20	"	155.8			
	.10	30	"	159.6			
	.20	40	"	162.1			
	.40	60	"	165	91	74	

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP 1245
2/23/99	AM 8.00	80	30	165.4		
	20	100	"	168.7		
	40	120	"	166.	86	73.5
	9.00	140	"	166.4		
	20	160	"	166.5		
	40	180	"	167	86.2	74
	10.00	200	"	167.5		
	20	220	"	168		
	40	240	"	169	86.5	75
	11.00	260	"	170.2		
	20	280	"	171.7		
	40	300	"	173	87	75.5
	P.M. 12.00	320	"	174.7		
	20	340	"	177.7		
	40	360	"	180	87.5	75
						48.2
	P.M.			Discharge		# 48
2/23/99	12.43	—	0	30	157.5	
	.45	0	30		149	
	.47	2	"		141.2	
	.50	5	"		137.5	
	.55	10	"		135.5	
	1.05	20	"		134.7	
	.15	30	"		133.2	
	.25	40	"		132.7	

DATE	TIME	MIN.	AMP	VOLTS ≈398	TEMP. 398	TEMP. idle	
1/23	P.M. 1.45	60	30	1235	87	74.7	
	.05	80	"	1255			
	.25	100	"	1247			
	.45	120	"	1247	87.2	73.5	
	3.05	140	"	1207			
	.25	160	"	121			
	.45	180	"	1202	87	74	
	4.05	200	"	1192			
	.25	220	"	118			
	.45	240	"	1167	89	74.5	
	5.05	260	"	1152			
	.25	280	"	113			
	.45	300	"	110.5	90.7	74.5	
	.55	310	"	1085			
	6.05	320	"	1.06			
	.10	325	"	1.043			
	.15	330	"	1.032			
	.20	335	"	1.013			
	.40	339	2 "	1.00	91.5	74.2	-169.7

DATE	TIME	MIN.	AMP	VOLTS ≈398	TEMP 398	TEMP idle	
				Charge	≈ 69		
1-23-09	P.M. 6.40	0	30	1.36	91.5	74.2	
	.42	2	"	142			
	.45	5	"	1.449			
	.50	10	"	1.50			
	7.00	20	"	1.56			
	.10	30	"	160			
	.20	40	"	1.63			
	.40	60	"	1.65	92	75	
	8.00	80	"	1.665			
	.20	100	"	165			
	.40	120	"	1.665	90.2	75.5	
	9.00	140	"	1.665			
	.20	160	"	166			
	.40	180	"	1.665	89.2	75	
	10.00	200	"	167			
	.20	220	"	1.682			
	.40	240	"	1.692	87	74.7	
	11.00	260	"	170.2			
	.20	280	"	1767			
	.40	300	"	172.6	87.5	75.5	off-shown
					89.4		
				Discharge		69	
1/24	PM 11.47			155.2			
	.45	0	30	147			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP 1026	
2/23/49	PM 11.47	2	30	139			
	.50	5	"	136			
	.55	10	"	133.5			
2/24	AM 12.05	20	"	131.6			
	.15	30	"	129.5			
	.25	40	"	128			
	.45	60	"	126	89	76.2	
	1.05	80	"	124.2			
	.25	100	"	123			
	.45	120	"	121.9	89.5	76.7	
	2.05	140	"	121			
	.25	160	"	119.7			
	.45	180	"	118.5	90.5	77	
	3.05	200	"	117			
	.25	220	"	115.2			
	.45	240	"	113.4	91.5	77	
	4.05	260	"	110.2			
	.25	270	"	108.2			
	.35	280	"	105.9			
	.45	290	"	102.1			
				100	92.5	77	= 14 q.5

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 1026	TEMP 1026	
2/24/49			Charge			70	
	AM 5.00	0	30	137	94	77.2	
	.02	2	"	142.2			
	.05	5	"	147			
	.10	10	"	150.5			
	.20	20	"	157.9			
	.30	30	"	160.4			
	.40	40	"	163			
	6.00	60	"	164	94	77.5	
	.20	80	"	167.2			
	.40	100	"	164.5			
	7.00	120	"	165	91.5	77.5	
	.20	140	"	165			
	.40	160	"	166			
	8.00	180	"	166.5	90.2	78	
	.20	200	"	167.4			
	.40	220	"	168.2			
	9.00	240	"	169.5	89	77.5	
	.20	260	"	170.7			
	.40	280	"	172			
	10.00	300	"	173.5	88.5	77.5	- 5 hrs.
					91.2		
		Discharge				= 0	
2/24	AM 10.03	-	Open	185.5			
	.05	"	30	184			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	Bottle	
7/24	A.M. 10.07	2	30	1.387			
	.10	5	"	1.36			
	.15	10	"	1.337			
	.25	20	"	1.315			
	.35	30	"	1.297			
	.45	40	"	1.282			
	11.05	60	"	1.26	89.5	77.5	
	.25	80	"	1.245			
	.45	100	"	1.23			
	P.M. 12.05	120	"	1.22	89.5	77	
	.25	140	"	1.21			
	.45	160	"	1.197			
	1.05	180	"	1.193	90.5	77	
	.25	200	"	1.167			
	.45	220	"	1.15			
	2.05	240	"	1.125	93	77.5	
	.25	260	"	1.09			
	.35	270	"	1.065			
	.40	275	"	1.047			
	.45	280	"	1.032			
	.50	285	"	1.017			
	5.42	289	"	1.00	93.7	76.5	-1.44.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	Bottle	
				Charge E	71.		
7/24	P.M. 3.05	0	30	1.38	94.2	76.7	
	.7	2	"	1.427			
	.10	5	"	1.46			
	.15	10	"	1.514			
	.25	20	"	1.565			
	.35	30	"	1.605			
	.45	40	"	1.63			
	4.05	60	"	1.642	94.5	76.2	
	.25	80	"	1.645			
	.45	100	"	1.645			
	5.05	120	"	1.645	92.5	76.5	
	.25	140	"	1.652			
	.45	160	"	1.66			
	6.05	180	"	1.665	90.2	77	
	.25	200	"	1.675			
	.45	220	"	1.685			
	7.05	240	"	1.70	88.7	76	
	.25	260	"	1.72			
	.45	280	"	1.735			
	8.05	300	"	1.762	87.5	75	-5 Chlorine
					91.2		

DATE	TIME	MIN.	AMP	VOLTS ≈ 3ΨB	TEMP ≈ 3ΨB	TEMP Side	
				Discharge # 71			
2-24-09	PM 8.08	open	—	1.575			
	.10	0	20	1.48			
	.12	2	"	1.395			
	.15	5	"	1.36			
	.20	10	"	1.337			
	.30	20	"	1.313			
	.40	30	"	1.295			
	.50	40	"	1.282			
	9.10	60	"	1.267	95	74	
	.30	80	"	1.243			
	.50	100	"	1.23			
	10.10	120	"	1.217	83.7	73.5	
	.30	140	"	1.21			
	.50	160	"	1.197			
	11.10	180	"	1.176	86	73.5	
	.20	200	"	1.16			
	.50	220	"	1.145			
2/25	AM 12.10	240	"	1.12.1	87	73	
	.30	260	"	109			
	.40	270	"	106.9			
	.50	280	"	104			
	1.00	290	"	100.2			
	.01½	291½	"	100	88.5	73	-145.9

DATE	TIME	MIN.	AMP	VOLTS ≈ 3ΨB	TEMP ≈ 3ΨB	TEMP Side	
2/25/09	AM			Charge		72	
	7.10	0	30	136	90	73	
	.12	2	"	143.7			
	.15	5	"	147.9			
	.20	10	"	151.9			
	.30	20	"	158.1			
	.40	30	"	161.8			
	.50	40	"	164			
	8.10	60	"	165	92	74	
	.30	80	"	164.5			
	.50	100	"	164.6			
	9.10	120	"	165	91	75	
	.30	140	"	165.5			
	.50	160	"	166.2			
	10.10	180	"	167	87	74	
	.30	200	"	168			
	.50	220	"	169			
	11.10	240	"	170	88	74	-4.9 Rem.
2/25				(89.2)			
	PM			Discharge		72	
	5.13	—	open	153.2			
	.15	0	30	145			
	.17	2	"	137.6			
	.20	5	"	134.4			
	.25	10	"	132.1			

DATE	TIME	MIN	AMP	VOLTS .398	TEMP .398	TEMP 1045	
2/22/14	5.55	20	30	129.8			
	6.00	30	"	127.6			
	5.55	40	"	126.5			
	6.10	50	"	124.2	88	78.5	
	7.35	80	"	123			
	7.55	100	"	121			
	7.15	120	"	120	89	75	
	7.35	140	"	118.1			
	7.55	160	"	116.1			
	8.15	180	"	114	89.2	74.7	
	8.35	200	"	110.7			
	8.55	220	"	106			
	9.15	240	"	98.7	90.2	74.5	- 120 to 98 V.
				Charge # 7.3			
2/25	A.M. 9.25	0	30	136	91	74.2	
	27	2	"	1432			
	30	5	"	147			
	35	10	"	1517			
	45	20	"	1582			
	55	30	"	162			
	1.00	40	"	164			
	15	60	"	1645	91.2	74	
	45	80	"	165			
	11.15	100	"	1655			

DATE	TIME	MIN	AMP	VOLTS .398	TEMP .398	TEMP 1045	
2/25	A.M. 11.25	120	30	1657	88.7	74.7	
	45	140	"	1665			
	P.M. 12.05	160	"	167			
	25	180	"	1677	87.2	73.7	
	45	200	"	1687			
	1.05	220	"	170			
	25	240	"	1712	86.5 (89.9)	73.7	- 4 hrs.
				Discharge			
2/25	P.M. 1.24	-	open	1.537			
	30	0	30	148			
	32	2	"	1275			
	35	5	"	1342			
	40	10	"	1325			
	50	20	"	1297			
	2.00	30	"	128			
	20	50	"	1257			
	40	70	"	124	87.2	73.7	
	3.10	90	"	1223			
	20	110	"	1205			
	40	130	"	1198	88	74	
	4.00	150	"	1177			
	20	170	"	1157			
	40	190	"	1124	89	74.2	
	5.00	210	"	1088			

DATE	TIME	MIN	AMP	VOLTS .398	TEMP .398	TEMP Idle	
2/25	P.M. 5.10	220	30	1.057			
	15	225	"	1.04			
	20	230	"	1.022			
	25	235	"	1.002			
	26	236	"	1.00	90	74	-119

Charge # 74

DATE	TIME	MIN	AMP	VOLTS	TEMP .398	TEMP Idle	
2-25-09	P.M. 5.40	0	30	1.39	91	74	
	.42	2	"	1.45			
	.45	5	"	1.435			
	.50	10	"	1.525			
	6.00	20	"	1.597			
	.10	30	"	1.62			
	.20	40	"	1.645			
	40	60	"	1.645	90	74	
	7.00	80	"	1.652			
	.20	100	"	1.655			
	.40	120	"	1.66			
	8.00	140	"	1.667	86.7	74.2	
	.20	160	"	1.675			
	.40	180	"	1.685	94.5	73.5	
	9.00	200	"	1.695			
	.20	220	"	1.713			
	.40	240	"	1.73	93.7	73.5	-4 hrs

(97.2)

DATE	TIME	MIN.	AMP	VOLTS .398	TEMP .398	TEMP Idle	
		Discharge # 74					
2-25-09	P.M. 9.43	0	30	1.545			
	.45	0	30	1.46			
	.47	2	"	1.385			
	.50	5	"	1.363			
	.55	10	"	1.325			
	10.05	20	"	1.30			
	.15	30	"	1.285			
	.25	40	"	1.27			
	.45	60	"	1.252	85.5	73.2	
	11.05	80	"	1.23			
	.25	100	"	1.21.5			
	.45	120	"	1.201	86	73.2	
	A.M. 12.05	140	"	1.187			
	.25	160	"	1.167			
	.45	180	"	1.144	87.7	73.5	
	1.05	200	"	1.12			
	.25	220	"	1.096			
	.35	230	"	1.09			
	.45	240	"	1.08	89.5	73.7	-120

Runs Continued in Vol. II.

A4 #398

Run	Charge	Discho.	Chg. Temp	Ampere-Hours to 1V.	Ampere-Hours to .5V.	Remarks
	Original Electrolyte - 21.9 g. KOH					+ 120 g. SrOH
1	48 hrs. @ 15	Oct 30	—	216.5	229.2	NiO_2 Recd.
	Allowed to Stand 74 Hours					
2	10 hrs @ 30 amp 8 " " 60	Oct 60	82.2 / 63.4 / 90 / 63.3	1.25	206	
3	"	"		1.30	208	
4	15 hrs. @ 30	Oct 30	90.6	197	202	NiO_2 Recd.
5	"	"	93.2	199.	203.9	" " " "
6	7 hrs @ 30	Oct 30	93.2	165.5	—	Prev. Idle 96 hrs.
X 7	"	"	92.1	179.7	—	
8	"	"	91.2	179.7	—	
9	"	"	90.7	175	—	
10	"	"	88.2	173	—	
11	"	"	88.5	177.5	—	
12	"	"	90.3	175	—	
13	"	"	89.3	178.	—	
14	"	"	91.9	179	—	
15	"	"	93.4	175	—	
16	"	"	78.8	173	—	Prev. Idle 41 hrs.
17	"	"	91.	176	—	
18	"	"	88.6	176.5	—	
X 19	"	"	90.6	176.5	—	
20	15 hrs @ 30	Oct 30	91.2	205	228.2	
21	"	"	91.7	208.5	223.5	
22	"	"	91.7	209	221.5	Chg. + Temp. Recd.
23	7 hrs @ 30	Oct 30	90.9	173.7	—	Prev. Idle 56 hrs.

Run	Charge	Discho.	Chg. Temp	Ampere-Hours to 1V.	Ampere-Hours to .5V.	Remarks
24	7 hrs. @ 30	Oct 30	91	182.5	—	
25	"	"	90.6	183.5	—	
X 26	"	"	91.7	182.7	—	
27	21 hrs @ 10	"	81.6	187	—	
28	"	"	81.6	185	—	
29	"	"	81.7	186	—	(NiO_2 Recd).
30	10½ hrs @ 20	"	74.7	195	—	Prev. Idle 27 hrs.
31	"	"	85.1	187	—	
32	"	"	85.5	186	—	(NiO_2 Recd.)
33	7 hrs @ 30	"	90.2	182	—	
34	"	"	92.8	186	—	
35	"	"	88.9	182.5	—	(NiO_2 Recd).
36	5½ hrs @ 40	"	97.4	182.5	—	
37	"	"	97.5	175	—	
38	"	"	95.6	176.2	—	(NiO_2 Recd.)
39	4½ hrs @ 50	"	87.	168.7	—	Prev. Idle 45 hrs.
40	"	"	92.1	171	—	
41	"	"	98.3	172.5	—	(NiO_2 Recd).
42	3½ hrs @ 60	"	100.6	167.2	—	
43	"	"	100.7	169.2	—	
44	"	"	101.9	165.7	—	(NiO_2 Recd).
45	2½ hrs @ 90	"	102.3	155.5	—	
46	"	"	102.3	156.5	—	(NiO_2 Recd.)
47	7 hrs @ 30	"	90.4	178.	—	
48	"	"	88.4	185.5	—	

(Page 27)

Run	Charge	Discharge	Ch. Temp.	Ampere-Hours To 1 V.	Ampere-Hours To .5 V.	Remarks
x 49	7 hrs @ 30	Od 30	89.4	183.5	—	(Wire Out Read)
50	"	"	90.2	182.2	—	
51	15 hrs @ 30	Od 30	89.1	220	—	Pure Selle 35 Hrs.
52	" 450 x	"	89.3	215	—	217.2 x
53	"	"	89.8	216.5	—	
54	12 hrs @ 30	"	90.5	215	—	Overdischarged 10 minutes (to .95)
55	" 360	"	91.9	215	—	216.5
56	"	"	93.7	219.7	—	
57	10 hrs @ 30	"	89.6	212.5	—	Pure Selle 47 Hrs.
58	" 300	"	93.1	208.5	—	210.8
59	"	"	91.3	211.5	—	
60	8 hrs @ 30 240	"	89.2	201.5	—	
61	"	"	89.7	199	—	202.1
62	"	"	90.9	200	—	
63	7 hrs @ 30 210	"	89.6	197.7	—	198.1
64	"	"	88.3	198.5	—	
65	"	"	87.8	198.2	—	Stand Charged 32 Hours
66	6 hrs @ 30 180	"	90.8	170	—	
67	"	"	89.7	173.5	—	171.0
68	"	"	88.2	169.7	—	
69	5 hrs @ 30 150	"	89.6	149.5	—	
70	"	"	91.2	144.5	—	146.5
71	"	"	91.2	148.7	—	
72	4 hrs @ 30	"	89.2	120	—	To .937 V.
73			89.2	119	—	

Run	Charge	Discharge	Ch. Temp.	Ampere-Hours To 1 V.	Ampere-Hours To .5 V.	Remarks
74	4 hrs @ 30	Od 30	89.2	120	—	*118.6
75	"	"	89.7	117.2	—	Record in Vol. II.
76	2 hrs @ 30	"	88.1	58.5	—	
77	"	"	88.2	60	—	
78	"	"	89.6	60	—	
79	"	"	90.7	59.2	—	
80	"	"	90.1	59.7	—	

Notebook, N-09-02-26.2

February 24, 1909.

A4 CELL #398,

VOLUME II.

Runs Continued from Vol. I.

DATE	TIME	MIN.	AMP	VOLTS	TEMP °39°	TEMP °39° cold	
2/26/09			Charge			75	
	AM 2.00	0	.30	139	90	72.7	
	.02	2	"	145.1			
	.05	5	"	148.1			
	.10	10	"	153			
	.20	20	"	159.8			
	30	30	"	162.7			
	.40	40	"	164.2			
	3.00	60	"	164.9	90	74	
	.20	80	"	165			
	.40	100	"	165			
	4.00	120	"	165.5	88	74	
	.20	140	"	166			
	.40	160	"	167			
	5.00	180	"	167.8	86	73.5	
	.20	200	"	168.6			
	.40	220	"	169.7			
	6.00	240	"	172	84.5	73	
					877		
			Discharge			75	
2/27	AM 6.00	—	.30	154.1			
	.05	5	"	145			
	.07	7	"	137.1			
	.12	12	"	136			
	.15	15	"	132			

DATE	TIME	MIN.	AMP	VOLTS °39°	TEMP °39°	TEMP °39° cold	
2/26/09	AM 6.25	25	.30	130			
	.35	35	"	128			
	.45	45	"	126.6			
	7.05	55	"	124.2	85	72.5	
	.25	75	"	122.7			
	.45	100	"	121.1			
	8.05	120	"	120.2	85	74.5	
	25	140	"	118.5			
	45	160	"	116.5			
	9.05	180	"	113.7	86.2	72.7	
	25	200	"	110.2			
	35	210	"	108			
	.45	220	"	105.3			
	.50	225	"	102.5			
	.55	230	"	101.7			
	.59	234	"	100	87.7	73.2	-11.72
					Charge	76	
2/26	A.M. 10.20	0	.30	140	90	72.5	
	22	2	"	145.8			
	25	5	"	149.2			
	30	10	"	154			
	.41	21	"	160.6			
	51	31	"	164			
	11.00	40	"	165			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	TEMP. Adde	
7/26	A.M. 11.20	60	30	1.656	87.2	72.7	
	40	80	"	1.656			
	P.M. 12.00	100	"	1.657			5 amps high for 4 mins
	20	120	"	1.66	87	74	-2 hrs.
					88.1		
			Discharge		76		
7/26	P.M. 12.23	-	Open	1.51			
	25	0	30	1.42			
	27	2	"	1.352			
	30	5	"	1.345			
	35	10	"	1.295			
	45	20	"	1.265			
	55	30	"	1.24			
	1.45	40	"	1.222			
	25	60	"	1.182	89.7	74.7	
	45	80	"	1.137			
	55	90	"	1.105			
	2.05	100	"	1.077			
	10	105	"	1.057			
	15	110	"	1.04			
	20	115	"	1.013			
	22	117	"	1.00	84.2	74.7	-58.5

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	TEMP. Adde	
			Charge		77		
7/26	P.M. 2.35	0	30	1.28	87.5	76.5	
	37	2	"	1.445			
	40	5	"	1.52			
	45	10	"	1.562			
	55	20	"	1.625			
	3.05	30	"	1.64			
	15	40	"	1.647			
	35	60	"	1.657	88.7	73	
	55	80	"	1.66			
	4.15	100	"	1.663			
	25	120	"	1.67	88.2	73.2	-2 hrs.
					88.3		
			Discharge		77		
7/26	P.M. 4.32	-	30	1.51			
	40	0	"	1.42			
	42	2	"	1.345			
	45	5	"	1.32			
	50	10	"	1.297			
	5.00	20	"	1.26			
	10	30	"	1.243			
	20	40	"	1.22			
	30	50	"	1.204			
	40	60	"	1.186	89.7	74	
	50	70	"	1.165			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP. 398	TEMP. other	
	PM.						
2-26-09	6:00	90	20	1.14			
	.10	90	"	1.15			
	.20	100	"	1.08			
	.30	110	"	1.047			
	.35	115	"	1.025			
	.45	120	"	1.00	89.5	74	-60
				Charge #78			
2-26-09	PM. 6:45	0	20	1.36	89.7	74	
	47	2	"	1.44			
	.50	5	"	1.50			
	.55	10	"	1.57			
	7:05	20	"	1.62			
	.15	30	"	1.625			
	.25	40	"	1.64			
	.45	60	"	1.645	91	74.5	
	8:05	80	"	1.625			
	.25	100	"	1.66			
	.45	120	"	1.667	88	74	
					89.5		
				Discharge #78			
2-26-09	PM. 8:48	after	—	1.512			
	.50	0	30	1.42			
	.52	2	"	1.36			
	.55	5	"	1.322			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP. 398	TEMP. other	
	PM.						
2-26-09	9:00	10	30	1.297			
	.10	20	"	1.265			
	.20	30	"	1.242			
	.30	40	"	1.222			
	.40	50	"	1.205			
	.50	60	"	1.185	89	73.7	
	10:00	70	"	1.167			
	.10	80	"	1.142			
	.20	90	"	1.118			
	.30	100	"	1.094			
	.40	110	"	1.045			
	.45	115	"	1.023			
	.50	120	"	1.00	90.5	74	-60
				Charge #79			
2-26-09	PM. 11:05	0	30	1.492	90.5	74	
	.09	2	"	1.48			
	.10	6	"	1.525			
	.15	10	"	1.57			
	.25	20	"	1.62			
	.35	30	"	1.64			
	.45	40	"	1.64			
2/27	AM. 12:35	60		1.643	91.5	75	
	.45	70		1.651			
	.55	80		1.659			

DATE	TIME	MIN	AMP	VOLTS 396	TEMP 396	TEMP 1066
2/27/99	AM 1.05	120	30	166.7	90.2 (90.7)	74.7
				Discharge		79
2/27	AM 1.08	—	fm	150.5		
	.11	0	30	147		
	.12	2	"	154.7		
	.15	5	"	151.7		
	.20	11	"	127		
	.30	20	"	126		
	.40	30	"	124		
	.50	40	"	122		
	2.00	50	"	120.3		
	.10	60	"	118.9	91	75
	.20	70	"	116.7		
	.30	80	"	114		
	.40	90	"	111.5		
	.50	100	"	108		
	3.00	110	"	103.7		
	.05	115	"	101.9		
	.08½	118½	"	100	91.7	74.7
						-59.2

DATE	TIME	MIN	AMP	VOLTS 396	TEMP 396	TEMP 1066
2/27/99				Charge		80
	AM 5.20	0	30	141	92	74.7
	.22	2	"	147.7		
	.25	5	"	151.7		
	.30	10	"	158		
	.40	20	"	163		
	.50	30	"	164		
	4.00	40	"	164.1		
	.20	60	"	165	92	74
	.40	80	"	165.8		
	5.00	100	"	166.5		
	.20	120	"	167.8	88.2 (90.1)	74.5
				Discharge		80
2/27	AM 5.20	—	fm	151.5		
	.25	0	30	147		
	.27	2	"	136		
	.30	5	"	127		
	.35	10	"	129.5		
	.45	20	"	126.3		
	.55	30	"	124.3		
	6.05	40	"	122.5		
	.15	50	"	121.7		
	.25	60	"	119	92	74.5
	.35	70	"	117		

DATE	TIME	MIN	AMP	VOLTS	TEMP 39K	39K	106F
2/27/19	AM 6.45	80	30	1146			
	.55	90	"	1112			
	7.05	100	"	1082			
	.15	110	"	105			
	.20	115	"	102			
	.24½	119½	"	100	96.7	74.5	-59.7
2/27	AM		Charge #1				
	7.25	0	30	141	96.7	74.5	
	.30	2	"	147.8			
	.40	5	"	150.5			
	.45	10	"	158			
	.50	20	"	163			
	7.55	30	"	164.2			
	8.15	40	"	164.5			
	.35	60	"	165	97.7	73.2	
	.55	80	"	165.7	"		
	9.15	100	"	167			
	.35	120	"	168	97.5	73.5	
	.55	140	"	169.7			
	10.15	160	"	169.2			
	.35	180	"	169.7	96.7	73.5	
	.55	200	"	170.5			
	11.15	220	"	171.5			

DATE	TIME	MIN	AMP	VOLTS 39K	TEMP 39K	106F
2/28	PM 11.35	240	30	1175	96.3	74
					96.1	
				Discharge #1		
2/28	PM 11.38	—	0	1542		
	.40	0	30	1477		
	.42	2	"	1377		
	.45	5	"	1346		
	.50	10	"	1327		
	12.00	20	"	1302		
	.10	30	"	1285		
	.20	40	"	1272		
	.40	60	"	1252	88.5	73.7
	1.00	80	"	1225		
	.20	100	"	1217		
	1.40	120	"	1207	87	73.5
	2.00	140	"	1195		
	.20	160	"	1175		
	2.40	180	"	1147	90.5	74.2
	.50	190	"	1137		
	3.00	200	"	1118		
	.10	210	"	1098		
	.20	220	"	1075		
	.25	225	"	1062		
	.30	230	"	1045		
	.35	235	"	[illegible]		

DATE	TIME	MIN	AMPS	VOLTS	TEMP.		
				39K	39K	9dle	
2-27-09	P.M. 3.40	240	30	1002			
	41½	241½	"	100	93.2	74.5	= 120.7

Stood forty one (41) hours over Sunday. MJ

3/1	A.M.		Charge	#82			
	8.20	0	30	151	75.2	74.5	
	22	2	"	159			
	125	5	"	122.2			
	30	10	"	167			
	40	20	"	170.5			
	50	30	"	172.5			
	9.00	40	"	168			
	20	60	"	168.5	79	74.2	
	40	80	"	168.5			
	10.00	100	"	168.7			
	20	120	"	169	81	74	
	40	140	"	169.4			
	11.00	160	"	169.7			
	20	180	"	170	82	74.5	
	40	200	"	170.7			
	P.M. 12.00	220	"	172	80.2		
	20	240	"	173.3	83.5	74	

DATE	TIME	MIN	AMPS	VOLTS	TEMP.		
				39K	39K	9dle	
	P.M.		Discharge	#82			
3-1-09	12.23	0	30	125			
	25	0	30	145			
	27	2	"	127.7			
	30	5	"	135			
	35	10	"	132.7			
	45	20	"	130.2			
	55	30	"	128.5			
	1.05	40	"	127.5			
	25	60	"	126.5	85	73.2	
	45	80	"	123.2			
	2.05	100	"	120			
	25	120	"	116.0	84.2	72	
	45	140	"	118.5			
	3.05	160	"	116.5			
	25	180	"	113.7	84.5	72	
	45	200	"	110.5			
	56	210	"	107.8			
	4.05	220	"	104.7			
	10	225	"	103.5			
	15	230	"	101.7			
	18½	233	"	100	82.5	72	= 116.7

DATE	TIME	MIN	AHR	VOLTS 398	TEMP 398	TEMP Idle	
				Charge		83	
3-1-09	P.M. 4.20	0	30	1.47	87.	76.5	
	32	2	"	1.475			
	35	5	"	1.505			
	40	10	"	1.56			
	50	20	"	1.61			
	5.00	30	"	1.656			
	10	40	"	1.657			
	30	60	"	1.655	89.	71.5	
	50	80	"	1.65			
	6.10	100	"	1.659			
	30	120	"	1.662	89.	72.2	
	50	140	"	1.67			
	7.10	160	"	1.675			
	30	180	"	1.68	89.	72.5	
	50	200	"	1.692			
	8.10	220	"	1.707			
	30	240	"	1.725	89.	72.5	= 4 hrs.
					89.5		
				Discharge		83	
3-1-09	P.M. 8.33	—	40	1.52			
	35	0	30	1.469			
	37	2	"	1.40			
	40	5	"	1.36			
	45	10	"	1.335			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Idle	
3-1-09	P.M. 8.55	20	30	1.317			
	9.05	30	"	1.287			
	15	40	"	1.277			
	35	60	"	1.255	88.	72.5	
	55	80	"	1.235			
	10.15	100	"	1.215			
	35	120	"	1.202	88.5	74.2	
	55	140	"	1.19			
	11.15	160	"	117.4			
	35	180	"	114.5	91.	75	
	55	200	"	111			
3/2	AM 12.05	210	"	109			
	15	220	"	106.1			
	25	230	"	103			
	35	235	"	101			
	52	237	"	100	92.5	75.5	= 11.5
3/2				Charge		84	
	AM 12.40	0	30	140	92.5	75.5	
	42	2	"	145.9			
	45	5	"	149.5			
	50	10	"	1.457			
	1.00	20	"	160			
	10	30	"	165			

DATE	TIME	MIN	AMP	VOLT. 39K	TEMP. 39K	TEMP. 1066	
2/1/09	1.20 AM	40	30	164.2			
	1.40	60	"	164.5	92	74.5	
	2.00	80	"	164.7			
	2.20	100	"	165.4			
	2.40	120	"	165.9	89.5	74.5	
	3.00	140	"	166.2			
	3.20	160	"	167			
	3.40	180	"	168	88	74	
	4.00	200	"	169			
	4.20	220	"	170.3			
	4.40	240	"	172.1	87	74	-4 hrs.
					(90)		
				Discharge	-	84	
2/2	9.40 AM	—	0	152.5			
	9.45	5	30	146.2			
	9.50	10	"	136.2			
	9.55	15	"	134.2			
	9.58	18	"	133			
	10.00	20	"	131.2			
	10.5	30	"	128.1			
	10.20	40	"	126.5			
	10.45	65	"	125	88.5	74	
	11.05	80	"	123			
	11.20	100	"	121.8			
	11.45	120	"	120	88	73.5	

DATE	TIME	MIN	AMP	VOLT. 39K	TEMP. 39K	TEMP. 1066	
2/1/09	7.05 AM	140	30	118.2			
	7.25	160	"	116.4			
	7.45	180	"	114	89.2	73.2	
	8.05	200	"	110.2			
	8.15	210	"	109.8			
	8.25	220	"	109.7			
	8.35	230	"	109.2			
	8.38	233	"	109	91	73.5	-11 hrs.
2/2				Charge	=	85	
	1.45 AM	0	30	140	91.2	73.5	charge (6) hours
	1.42	2	"	145.5			
	1.50	5	"	148			
	1.55	10	"	153			
	2.05	20	"	159.5			
	2.15	30	"	163.2			
	2.25	40	"	164.2			
	2.40	60	"	164.8	91.5	74.2	
	3.05	80	"	164.5			
	3.25	100	"	165			
	3.45	120	"	165.7	90.2	74.5	
	4.05	140	"	166.2			
	4.25	160	"	167.2			
	4.45	180	"	167	89.5	75	

DATE	TIME	MIN	AMPS	VOLTS 39Y	TEMP 39S	TEMP Odd	
3/2/09	P.M. 1.05	200	30	1.69			
	.25	220	"	1.705			
	.45	240	"	1.722	89.2	7.6	
	1.05	260	"	1.735			
	.25	280	"	1.745			
	.45	300	"	1.75	90	7.65	
	2.05	320	"	1.76			
	.25	340	"	1.77			
	.45	360	"	1.77	91	76.7	-6 hrs
					90.3		
			Discharge 85				
3/2/09	P.M. 2.45	—	Open	1.577			
	50	0	30	1.49			
	.52	2	"	1.415			
	.55	5	"	1.377			
	3.00	10	"	1.36			
	.10	20	"	1.332			
	.20	30	"	1.315			
	.30	40	"	1.30			
	.50	60	"	1.277	91.5	77	
	4.10	80	"	1.258			
	.30	100	"	1.244			
	.50	120	"	1.23	91	77	
	5.10	140	"	1.22			
	.30	160	"	1.21			

DATE	TIME	MIN.	AMP	VOLTS 39S	TEMP 39S	TEMP 39Odd	
3-2-09	P.M. 5.50	1.50	30	1.20	91	77	
	6.10	200	"	1.187			
	.30	220	"	1.175			
	.50	240	"	1.16	92.7	77.5	
	7.10	260	"	1.137			
	.30	280	"	1.105			
	.50	300	"	1.045	93.2	78.2	
	8.00	320	"	1.04			
	.15	330	"	1.012			
	.14	334	"	1.00	96	78	-16.2
				Charge #86			
3-2-09	P.M. 8.30	0	30	1.40	95	78	
	.32	2	30	1.46			
	.35	5	"	1.425			
	.40	10	"	1.51			
	.50	20	"	1.565			
	9.00	30	"	1.605			
	.10	40	"	1.635			
	.30	60	"	1.642	94.2	78	
	.50	80	"	1.645			
	10.10	100	"	1.64			
	.30	120	"	1.655	93.5	78.5	
	.50	140	"	1.68			

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP slide	
3-2-09	P.M. 11.10	160	30	166.1			
	.30	180	"	166.9	92.5	78.5	
	.50	200	"	167.8			
3/3	AM 12.10	270	"	166.4			
	.30	240	"	169.4	89.5	74.5	
	.50	260	"	171			
	1.10	280	"	172.1			
	.30	300	"	172.8	88	77.2	
	.50	320	"	173.3			
	2.10	340	"	176.8			
	.30	360	"	178.2	87.5	78.5	-6 hrs.
					(91.5)		
				Discharge			
3/3	AM 2.55	—	0	151.2			
	.35	0	30	149			
	.37	2	"	141			
	.40	5	"	138			
	.45	10	"	136.1			
	.55	20	"	133.2			
	3.05	30	"	131.5			
	.15	40	"	130			
	.25	60	"	127.6	88	76.5	
	.35	80	"	126.7			
	4.15	100	"	124			
	.35	120	"	122.6	89	75	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP slide	
3/3	AM 4.55	140	30	121.7			
	5.15	160	"	120.8			
	.35	180	"	120	92	77	
	.55	200	"	118.9			
	6.15	220	"	117.8			
	.35	240	"	116	92.5	76.5	
	.55	260	"	113.7			
	7.15	280	"	110.5			
	.35	300	"	107.8	91	76	
	.45	310	"	106			
	.55	320	"	102.6			
	8.06	331	"	100	94.5	75.7	-165.5
				Charge #27			
3/3	AM 8.20	0	30	138	95	75.7	
	.22	2	"	145.8			
	.25	5	"	149			
	.30	10	"	152			
	.40	20	"	157			
	.50	30	"	161.5			
	9.00	40	"	163.8			
	.20	60	"	166.2	91.7	74	
	.40	80	"	165.2			
	10.00	100	"	165.7			
	.20	120	"	166	88.5	73.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Nile	
3-2-09	PM 10.40	140	30	1.666			
	11.00	160	"	1.677			
	20	180	"	1.677	76.5	72.2	
	40	200	"	1.685			
	PM 1.00	220	"	1.697			
	20	240	"	1.705	86	73	
	40	260	"	1.718			
	1.00	280	"	1.73			
	20	300	"	1.745	85	72.7	
	40	340	"	1.76			
	2.00	340	"	1.775			
	20	360		1.795	86.5	73.5	-6 hrs
					89.4		
				Discharge #87.			
3-2-09	PM 2.23	-	Open	1.892			
	25	0	30	1.49			
	27	2	"	1.432			
	30	5	"	1.378			
	35	10	"	1.337			
	45	20	"	1.33			
	55	30	"	1.315			
	3.05	40	"	1.297			
	25	60	"	1.275	86	73	
	45	80	"	1.257			
	4.05	100	"	1.24			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Nile	
3/2/09	PM 4.25	120	30	1.236	85	71.7	
	45	140	"	1.217			
	5.05	160	"	1.201			
	25	180	"	1.197	85.4	71	
	45	200	"	1.186			
	6.05	220	"	1.175			
	25	240	"	1.16	87	71.5	
	45	260	"	1.14			
	7.05	280	"	1.112			
	25	300	"	1.075	89.5	72	
	35	310	"	1.052			
	45	320	"	1.02			
	52	327	"	1.00	89.7	72.5	-16.3.5
				Change #88			
3-3-09	PM 8.05	0	30	1.35	90.7	72.5	
	07	2	"	1.44			
	10	5	"	1.48			
	15	10	"	1.52			
	25	20	"	1.57			
	35	30	"	1.615			
	45	40	"	1.637			
	9.05	60	"	1.64	90.5	73	
	25	80	"	1.64			

DATE	TIME	MIN.	AMP.	VOLTS	TEMP 398	TEMP Wade	
3-2-09	P.M. 9.45	1.00	30	166.5			
	10.05	120	"	166.9	87.5	72.7	
	.25	140	"	166			
	.45	160	"	166.5			
	11.08	183	"	167.4	88.5	73	
	.25	200	"	168.2			
	.45	220	"	169			
3/4	A.M. 12.05	240	"	170	85.5	72.7	
	.25	260	"	171.7			
	.45	280	"	172.7			
	1.05	300	"	174	85.5	72.7	
	.25	320	"	176			
	.45	340	"	177			
	2.05	360	"	180	85	73	
	.25	380	"	181			
	.45	400	"	182			
	3.05	420	"	182.3	85	73	— 9 hrs.
3/4	A.M.			Discharge	(87)	88	
	3.05	—	5	159			
	.10	0	30	152			
	.12	2	"	141.9			
	.15	5	"	134			
	.20	10	"	126.2			
	.30	20	"	122.8			

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP Wade	
3/1/09	A.M. 3.40	20	30	121.5			
	.50	40	"	121.7			
	4.10	60	"	122.9	85	71	
	.30	80	"	126			
	.50	100	"	124.4			
	5.10	120	"	123	84.5	71	
	.30	140	"	122.1			
	.50	160	"	121.4			
	6.10	180	"	120.2	85.5	71	
	.30	200	"	119.5			
	.50	220	"	117			
	7.10	240	"	116.5	83.5	70.2	
	.30	260	"	116			
	.50	280	"	114.1			
	8.10	300	"	112.5	85.2	70.2	
	.30	320	"	109.5			
	.40	330	"	109.4			
	.50	340	"	108.8			
	.55	345	"	108			
	9.00	350	"	103.5			
	.05	355	"	102.2			
	.10	360	"	101			
	.13	363	"	100	88.2	71	— 19 hrs.

DATE	TIME	MIN	AHRS	VOLTS	TEMP		
				398	398	Sells	
				Charge # 89			
	PM						
3-4-09	9.25	0	30	1.28	.90	70.5	
	.22	2	"	1.427			
	.25	5	"	1.49			
	.30	10	"	1.502			
	.40	20	"	1.562			
	.50	30	"	1.60			
	10.00	40	"	1.63			
	.20	60	"	1.655	.89	70.5	
	.40	80	"	1.658			
	11.00	100	"	1.659			
	.20	120	"	1.662	.867	70.7	
	.40	140	"	1.665			
	PM						
	12.00	160	"	1.67			
	.20	180	"	1.677	.85	70.7	
	.40	200	"	1.674			
	1.00	220	"	1.675			
	.20	240	"	1.681	.84	70.7	
	.40	260	"	1.682			
	2.00	280	"	1.682			
	.20	300	"	1.74	.837	71.5	
	.40	320	"	1.752			
	3.00	340	"	1.77			
	.20	360	"	1.792	.84	71.7	
	.40	380	"	1.82			

DATE	TIME	MIN	AHRS	VOLTS	TEMP		
				398	398	Sells	
	PM						
3-4-09	4.00	400	30	1.912			
	.20	420	"	1.839	.837	70.5	
					(95.7)		
				Discharge # 89			
	PM						
3-4-09	4.23	-	Open	1.598			
	.25	0	30	1.50			
	.27	2	"	1.415			
	.30	5	"	1.385			
	.35	10	"	1.365			
	.45	20	"	1.341			
	.55	30	"	1.322			
	5.05	40	"	1.307			
	.25	60	"	1.28	.837	70.7	
	.45	80	"	1.265			
	6.05	100	"	1.247			
	.25	120	"	1.235	.84	71	
	.45	140	"	1.225			
	7.05	160	"	1.22			
	.25	180	"	1.205	.835	71.2	
	.45	200	"	1.20			
	8.05	220	"	1.192			
	.25	240	"	1.18	.83	71.7	
	.45	260	"	1.167			
	9.05	280	"	1.145			
	.25	300	"	1.12	.825		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Odle	
	PM						
3-4-09	9.45	380	30	1.05			
	10.05	340	"	1.062			
	.15	350	"	1.045			
	.25	360	"	1.02	91	72.7	
	.31	366	"	1.00			-193
				Charge 90			
3-4-09	PM 10.40	0	20	1.34	93	73	
	42	2	"	1.45			
	45	5	"	1.47			
	50	10	"	1.50			
	11.00	20	"	1.545			
	10	30	"	1.595			
	20	40	"	1.62			
	40	60	"	1.644	92.7	73.2	
3/5	AM 12.00	80	"	1.65			
	.20	100	"	1.651			
	.40	120	"	1.655	89	74	
	1.00	140	"	1.657			
	.20	160	"	1.66			
	.40	180	"	1.665	87.0	74	
	2.00	200	"	1.67			
	.20	220	"	1.68			
	.40	240	"	1.695	85.5	73	
	3.00	260	"	1.70			

DATE	TIME	MIN.	AMPS	VOLTS 398	TEMPS 398	1045	
3/5/09	AM 3.20	240	30	1.71.4			
	.40	300	"	173.2	85.5	72	
	4.00	320	"	174.4			
	.20	340	"	176.1			
	.40	360	"	177.1	84	71.5	
	5.00	380	"	180			
	.20	400	"	182			
	.40	420	"	183	85.5	71.7	
					(87.0)		
				Discharge			90
3/5	AM 5.40	—	4	159			
	.45	0	30	149			
	.47	2	"	141.9			
	.50	5	"	137.8			
	.55	10	"	136.2			
	6.05	20	"	133.7			
	.15	30	"	132			
	.25	40	"	130.5			
	.45	60	"	128	86	71	
	7.05	80	"	126			
	.25	100	"	124.3			
	.45	120	"	123.2	84	70.2	
	8.05	140	"	122.5			
	.25	160	"	121.7			
	.45	180	"	120.6	83.7	70	

DATE	TIME	MIN	AMP	VOLTS 395	TEMP 398	TEMP Idle
2-5-09	P.M. 9.05	200	30	1.20		
	20	220	"	1.19		
	40	240	"	1.18	88	71.7
	10.05	260	"	1.167		
	25	280	"	1.15		
	40	300	"	1.13	89	72
	11.05	320	"	1.06		
	25	340	"	1.07		
	35	350	"	1.05		
	40	355	"	1.041		
	45	360	"	1.022	91.5	72.7
	51	366	"	1.004		
	53	368	"	1.00	92	72.7	-184
				at		
				Change #91		
3-5-09	P.M. 12.0	–	30	1.43	86.5	72.5
	22	2	"	1.497		
	25	5	"	1.517		
	30	10	"	1.545		
	40	20	"	1.597		
	55	30	"	1.627		
	2.00	40	"	1.65		
	20	60	"	1.67	86.5	74
	40	80	"	1.667		
	3.00	100	"	1.665		

DATE	TIME	MIN	AMP	VOLTS 395	TEMP 398	TEMP Idle
3-5-09	P.M. 3.20	120	30	1.666	86.2	74
	40	140	"	1.675		
	4.00	160	"	(1.67)		
	20	180	"	1.68	85.5	74.2
	40	200	"	1.685		
	5.00	220	"	1.697		
	20	240	"	1.71	85.7	74.2
	40	260	"	1.715		
	6.00	280	"	1.722		
	20	300	"	1.72	86	74
	40	320	"	1.742		
	7.00	340		1.745		
	20	360		1.78	86.5	74.2
	40	380		1.80		
	8.00	400		1.82		
	20	420		1.825	87	74.5
	40	440		1.83		
	9.00	460		1.835		
	20	480		1.835	9.05	74.5	-8 hrs
					(86.7)	
				Change #91		
3-5-09	P.M. 9.20	–	40	1.595		
	25	0	30	1.56		
	30	2	"	1.585		
	35	5	"	1.595		

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	TEMP. Idle	
3-5-09	9.35	10	20	1326			
	.45	20	"	1325			
	.55	30	"	1322			
	1005	40	"	1317			
	.25	60	"	1295	94.7	74.5	
	.45	80	"	127			
	1105	100	"	1265			
	.25	120	"	1242	95.5	74.7	
	.45	140	"	1235			
	12.05	160	"	1223			
	.25	180	"	1217	92.2	75	
	.45	200	"	121			
	1.05	220	"	1202			
	.25	240	"	119	92.5	76	
	.45	260	"	118			
	2.05	280	"	116.9			
	.25	300	"	115.6	93	75.7	
	.45	320	"	112.2			
	3.05	340	"	111			
	.25	360	"	107.6	93.5	75.5	
	.25	380	"	105.5			
	.40	395	"	104			
	.45	400	"	102.4			
	.50	405	"	101			
	.53	408	"	100	94	75.5	-194

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	TEMP. IDLE	
3/4/09	AM		Charge		92		
	4.00	0	30	134	93.5	75.5	
	.02	2	"	141.7			
	.05	5	"	145.4			
	.10	10	"	149			
	.20	20	"	155			
	.30	30	"	158.4			
	.40	40	"	162.1			
	5.00	60	"	164.6	93.5	75	
	.20	80	"	165			
	.40	100	"	165			
	6.00	120	"	165.5	92.2	74.7	
	.20	140	"	165.9			
	.40	160	"	166			
	7.00	180	"	166.2	93.5	75.2	
	.20	200	"	166.5			
	.40	220	"	167.5			
	8.00	240	"	168	89	76	
	.20	260	"	169			
	.40	280	"	170			
	9.00	300	"	172	89	75.5	
	.20	320	"	173			
	.40	340	"	174			
	10.00	360	"	176	89	74.7	
	.20	380	"	178			

Date	Time	Min.	Amp.	Volts	Temp.		Delta	
					398	398		
	P.M.							
3-6-09	10.45	400	30.	1.31				
	11.00	420	"	1.25	89		.747	
	.20	440	"	1.22				
	.40	460	"	1.24				
	P.M.							
	12.00	480	"	1.94	91		.76	- 8 hours
					90.1			
				Discharge 92				
	P.M.							
3-6-09	12.03	-	off	1.29				
	.05	0	30	1.51				
	.09	2	"	1.42				
	.10	5	"	1.32				
	.15	10	"	1.32				
	.25	20	"	1.347				
	.35	30	"	1.347				
	.45	40	"	1.317				
	.55	50	"	1.292	90		.757	
	.65	60	"	1.272				
	.75	70	"	1.255				
	1.05	100	"	1.24	.907		.73	
	.35	140	"	1.225				
	.45	150	"	1.225				
	2.05	180	"	1.215	.897		.727	
	.25	200	"	1.208				
	.45	220	"	1.197				
	4.05	240	"	1.187	.892		.717	

Date	Time	Min.	Amp	Volts	Temp.		Delta	
				398	398			
	P.M.							
3-6-09	4.25	260	30	1.18				
	.45	280	"	1.166				
	5.05	300	"	1.15	92		.737	
	.25	320	"	1.13				
	.45	340	"	1.107				
	6.05	360	"	1.077	93		.74	
	.15	370	"	1.055				
	.20	375	"	1.041				
	.25	380	"	1.026				
	.30	385	"	1.008				
	.33½	388½	"	1.00	.94		.74	- 10 hrs.
				Stood (this for + half (35½) hours over Sunday night				
3/8				Charge			93	
	AM							
	6.00	0.	30.	1.49	73.5		.72	
	.02	2	"	1.55				
	.05	5	"	1.59				
	.10	10	"	1.63				
	1.20	20	"	1.62				
	.30	30	"	1.62				
	.40	40	"	1.627				
	7.00	60	"	1.65	74		.745	
	.20	80	"	1.67				

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 391	1015	
3/8/09	7.45 AM	20	30	1681			
	8.00	120		1682	80.2	74	
	20	140	"	1686			
	40	160	"	1688			
	9.00	180	"	1691	81	73.7	
	20	200	"	1695			
	40	220	"	1702			
	10.00	240	"	171	81.2	73.5	
	20	260	"	1716			
	40	280	"	1727			
	11.00	300	"	1737	82.2	73.2	
	20	320	"	1745			
	40	340	"	176			
	PM. 12.00	360	"	1772	83.2	73.2	
	20	380	"	1775			
	40	400		182			
	1.00	420		1835	86	73.7	
	20	440		1844			
	40	460		1844			
	2.00	480		1846	87.7	74	=8hrs.
					(81)		
				Discharge	9.3		
3-8-09	PM 2.03	—		6pm 1595			
	05	10	30	157			
	07	2	"	1422			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS. 398	1015	
3-8-09	PM 2.10	5	30	1325			
	15	10	"	1362			
	15	20	"	1345			
	25	30	"	1345			
	45	40	"	1315			
	3.05	60	"	1426	87.2	74	
	25	80	"	1466			
	45	100	"	125			
	4.05	120	"	1458	88.2	74	
	25	140	"	1226			
	45	160	"	122			
	5.05	180	"	1212	88.2	74	
	25	200	"	1205			
	45	220	"	120			
	6.05	240	"	1192	90.2	74.5	
	25	260	"	1192			
	45	280	"	117			
	7.05	300	"	1167	92	75	
	25	320	"	1125			
	45	340	"	1110			
	8.05	360	"	1055	93.2	75	
	25	380	"	1055			
	45	390	"	192			
	55	395	"	100	94	75.2	10.215

DATE	TIME	MIN	AMPS	VOLTS 394	TEMP 394	TEMP Bell
				Charge # 94		
3-2-09	PM 9:40	0	29	156	94.2	75
	42	2	11	1.43		
	45	5	11	1.46.5		
	50	10	11	1.60		
	9:00	20	11	1.64		
	10	30	11	1.60		
	20	40	11	1.62		
	40	60	11	1.66.5	95	75.5
	10:00	80	11	166		
	20	100	11	1.63		
	40	120	11	1.65	93	76
	11:02	142	11	166		
	20	160	11	1.66		
	40	180	11	166.2	91.5	76
3/9	AM 12:00	200	11	167		
	20	220	11	167.8		
	40	240	11	167.5	90	76
	1:00	260	11	167.7		
	20	280	11	170.7		
	40	300	11	171.8	90	76
	2:00	320	11	173		
	20	340	11	173.8		
	40	360	11	175.5	90	76.5
	3:00	380	11	177		

DATE	TIME	MIN	AMPS	VOLTS 394	TEMP 394	TEMP Bell	
3/9/09	AM 3:20	400	30	179.9			
	40	420	"	182.1	91	76.5	
	4:00	440	"	183.3			
	20	460	"	184			
	40	480	"	184	92	76.2	– 8 Run.
					9:15		
3/				Discharge		94	
	AM 4:40	–	4	159			
	45	0	20	150			
	47	2	"	142.7			
	50	5	"	139			
	55	10	"	137			
	5:05	20	"	134.5			
	15	30	"	132.7			
	25	40	"	131.7			
	45	60	"	128.9	92	76	
	6:05	80	"	127			
	25	100	"	125.8			
	45	120	"	124.2	92	76.5	
	7:05	140	"	123.4			
	25	160	"	122.2			
	45	180	"	121.9	92	76.2	
	8:05	202	"	121			
	25	220	"	120.1			
	45	240	"	119.8	91	76.5	

DATE	TIME	MIN	AMPS	VOLTS	TEMP. 398	398	Idle	
3-9-09	9.05	260	30	1.192				
	25	270	"	117				
	45	300	"	1157	907	75.5		
	10.05	320	"	1137				
	25	340	"	1114				
	45	360	"	1093				
	55	370	"	1065	91.5	75		
	11.00	375	"	105				
	11.05	380	"	1038				
	11.10	385	"	1017				
	15	390	"	1002				
	1.52	3.92	"	100	91	75		-1953
				Change #95				
3-9-09	PM 1.40	=	30	129	93	75		
	42	2	"	1482				
	45	5	"	147				
	50	10	"	1512				
	PM 1.55	20	"	1565				
	10	30	"	1595				
	20	40	"	163				
	40	60	"	1655	91.5	75		
	1.00	80	"	1659				
	20	100	"	1658				
	40	120	"	1661	92	75.2		

DATE	TIME	MIN	AMPS	VOLTS 394	TEMP 394	Idle	
3-9-09	PM 1.00	140	30	1.66			
	20	160	"	1.662			
	40	180	"	1.663	89	76	
	3.00	200	"	1.669			
	20	220	"	1.672			
	40	240	"	168	88.7	76	
	4.00	260	"	169			
	20	280	"	170			
	40	300	"	1.717	88.7	76.2	
	5.00	320	"	1.723			
	20	340	"	174			
	40	360	"	175	89	76.2	
	6.00	380	"	1.772			
	20	400	"	1.815			
	40	420	"	1.832	90	77	
	7.00	440	"	184			
	20	460	"	1.842			
	40	480	"	1.842	92	77.2	
	8.00	500	"	1.845			
	20	520	"	1.842			
	40	540	"	1.844	94	77.5	
	9.00	560	"	1.850			
	20	580	"	1.851			
	40	600	"	1.8	95	77.2	-10 hrs

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 399	9/22	
			Fine charge 95				
3-9-09	PM 9.43	ofmy	–	1.545			
	.45	0	30	1.50			
	.47	2	"	1.44			
	.50	5	"	1.39			
	.55	10	"	1.377			
	10.05	20	"	1.363			
	.15	30	"	1.342			
	.25	40	"	1.325			
	.45	60	"	150.2	96.2	77.5	
	11.05	80	"	127.4			
	.25	100	"	126.3			
	.45	120	"	125	94	77.7	
3/10	AM 12.05	140	"	123.8			
	.25	160	"	123			
	.45	180	"	122.4	94.5	78	
	2.05	200	"	121.3			
	.25	220	"	120.5			
	.45	240	"	120	95	78.2	
	3.05	260	"	119.4			
	.25	280	"	119.2			
	.45	300	"	119	95.5	78	
	4.05	320	"	118.8			
	.25	340	"	118.5			
	.45	360	"	118	96	78	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	9/22	
3/9/09	AM 4.05	360	30	106.3			
	.15	390	"	106.7			
	.25	400	"	104			
	.35	410	"	101			
	.37½	412½	"	100	97.5	78	–206.2
3/10	AM			charge 96			
	5.00	0	30	138	96.7	77.7	
	.02	2	"	143			
	.05	5	"	146			
	.12	12	"	149.8			
	.21	21	"	155.5			
	.30	30	"	156.2			
	.40	40	"	161.3			
	6.00	60	"	163.1	95	77.5	
	.20	80	"	165			
	.40	100	"	165			
	7.00	120	"	165	93.7	78	
	.20	140	"	165			
	.40	160	"	165.7			
	8.00	180	"	166	91.5	78	
	.20	200	"	166.9			
	.40	220	"	167.4			
	9.00	240	"	167.8			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Sdle
	P.M.					
3-10-69	9.20	260	30	1685		
	40	280	"	1697		
	10.00	300	"	1706	89	77
	20	320	"	1718		
	40	340	"	1725		
	11.00	360	"	1735	90.7	77.2
	20	380	"	175		
	40	400	"	180		
	P.M. 12.00	420	"	1.917	93	77.7
	20	440	"	183		
	40	460	"	1845		
	1.00	480	"	185	92	76.5
	20	500	"	1852		
	40	520	"	1854		
	2.00	540	"	1858	91.5	76
	20	560	"	1857		
	40	580	"	186		
	3.00	6.00	"	186	91	76
					9214	
				Lschange	96	
	P.M.					
3-10-69	3.03	-	Open	1598		
	05	0	30	157		
	07	2	1	162		
	10	5		159		
	15	10		157		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Sdle
	P.M.					
3-10-69	3.25	20	30	1257		
	35	30	"	1255		
	45	40	"	1217		
	4.05	60	"	1129	88.5	74.5
	25	80	"	127		
	45	100	"	1253		
	5.05	120	"	1238	88	74.2
	25	140	"	1226		
	45	160	"	1217		
	6.05	180	"	121	86	74
	25	200	"	1202		
	45	220	"	1195		
	7.05	240	"	119	86.5	74.2
	25	260	"	1182		
	45	280	"	1173		
	8.05	300	"	1157	85	74
	25	320	"	1152		
	45	340	"	1145		
	9.05	360	"	1092	82	73.5
	25	380	"	1067		
	35	390	"	1052		
	45	400	"	102		
	55	410	"	100	98	73
						-202.2

DATE	TIME	MIN.	AMP.	VOLTS	TEMP 39F	TEMP 20F
				Change #97		
3-10-09	P.M. 1:00	0	30	1.27	86.7	79.5
	02	2	"	1.42		
	.05	5	"	1.465		
	.10	10	"	1.502		
	.20	20	"	1.555		
	.30	30	"	1.589		
	.40	40	"	1.605		
	1:00	60	"	1.66	86.2	71.5
	.20	80	"	1.662		
	.40	100	"	1.661		
3/11	A.M. 1:00	120	"	1.661	84.5	71.7
	.20	140	"	1.667		
	.40	160	"	1.674		
	1:00	180	"	1.67.6	83.2	71.5
	.20	200	"	1.678		
	.40	220	"	1.68		
	2:00	240	"	1.69	83	71.7
	.20	260	"	1.70		
	.40	280	"	1.71		
	3:00	300	"	1.72	83.7	72
	.20	320	"	1.73.8		
	.40	340	"	1.74.7		
	4:00	360	"	1.75.8	84	72
	.20	380	"	1.77.8		

DATE	TIME	MIN	AMP.	VOLTS	TEMP 39F	TEMP 20F
3/11/09	A.M. 4:40	400	20	1.80.7		
	5:00	420	"	1.83	85.7	72
	.20	440	"	1.85		
	.40	460	"	1.86		
	6:00	480	"	1.86	87	72
	.20	500	"	1.86.1		
	.40	520	"	1.86.1		
	7:00	540	"	1.86	89.2	72.5
	.20	560	"	1.86		
	.40	580	"	1.85.8		
	8:00	600	"	1.862	88.2	71.5
	.20	620	"	1.867		
	.40	640	"	1.867		
	9:00	660	"	1.867	88.2	72
	.20	680	"	1.866		
	.40	700	"	1.866		
	10:00	720	"	1.862	90	71.5 -12 hrs.
				(861)		
				Discharge #97		
3-11-09	P.M. 10:03	—	0 Amp	1.62		
	.05	2	30	1.51		
	.07	4	"	1.43.7		
	10	5	"	1.39.7		
	15	10	"	1.37.8		
	25	20	"	1.35.7		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Odle	
	PM.						
3-11-09	1.25	30	30	1.325			
	45	40	"	1.325			
	1.05	60	"	1.297	89.7	74.2	
	25	80	"	1.278			
	45	100	"	1.26			
	1.05	120	"	1.245	89	73.2	
	25	140	"	1.235			
	45	160	"	1.225			
	1.05	180	"	1.215	87.2	72.5	
	25	200	"	1.21			
	45	220	"	1.202			
	2.05	240	"	1.198	88.7	73.5	
	25	260	"	1.187			
	45	280	"	1.18			
	3.05	300	"	1.167	90.2	74.2	
	25	320	"	1.156			
	45	340	"	1.14			
	4.05	360	"	1.118	92	75	
	25	380	"	1.094			
	35	390	"	1.077			
	45	400	"	1.06			
	5.0	405	"	1.047			
	55	410	"	1.032			
	5.00	415	"	1.018			
	05	420	"	1.002			
	06	421	"	1.00	98.5	75.2	-210.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Odle
				Change = 98		
3-11-09	PM. 5.10	0	30	1.35	98.5	75.2
	15	2	"	1.42		
	15	5	"	1.448		
	50	10	"	1.483		
	30	20	"	1.532		
	40	30	"	1.575		
	50	40	"	1.60		
	6.10	60	"	1.62	94	75
	30	80	"	1.647		
	50	100	"	1.65		
	7.10	120	"	1.655	91.5	76
	30	140	"	1.658		
	50	160	"	1.659		
	8.10	180	"	1.66	90.5	76
	30	200	"	1.665		
	50	220	"	1.67		
	9.10	240	"	1.677	90	76
	30	260	"	1.685		
	50	280	"	1.70		
	10.10	300	"	1.715	89	76
	30	320	"	1.722		
	50	340	"	1.732		
	11.10	360	"	1.75	88.7	75.5
	30	380	"	1.761		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	Odle	
3/11/39	PM 11.50	400	30	178.7			
3/12	AM 12.10	420	"	181.2	89.2	75.5	
	.30	440	"	183.4			
	.50	460	"	185			
	1.10	480	"	185.1	91.7	75.5	
	.30	500	"	185.1			
	.50	520	"	185.4			
	2.10	540	"	185.3	92.2	75.7	
	.30	560	"	185.1			
	.50	580	"	185.2			
	3.10	600	"	185	94	75.5	
	.30	620	"	185			
	.50	640	"	185.3			
	4.10	660	"	185	94.5	75	
	.30	680	"	185.2			
	.50	700	"	185.5			
	5.10	720	"	185.7	94	74.2	-12 hrs.
					91.7		
				Discharge		90	
3/12	AM 5.13	—	1/4	189.4			
	.15	0	30	151			
	.17	2	"	143.5			
	.20	5	"	139.4			
	.25	10	"	137.8			
	.35	20	"	135.4			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	Odle	
3/12/39	AM 5.45	30	30	133.7			
	.55	40	"	132.1			
	6.15	60	"	129.7	92.5	73	
	.35	80	"	127.7			
	.55	100	"	125.8			
	7.15	120	"	124.5	90.5	73	
	.35	140	"	123.2			
	.55	160	"	122.3			
	8.15	180	"	121.7	88.5	72	
	.35	200	"	120.7			
	.55	220	"	120.1			
	9.15	240	"	119.5	88	71.5	
	.35	260	"	118.6			
	.55	280	"	118			
	10.15	300	"	116.6	89	71.7	
	.35	320	"	115.4			
	.55	340	"	113.8			
	11.15	360	"	111.7	90	72	
	.35	380	"	109			
	.55	400	"	105.8			
	PM 12.00	415	"	102.3			
	.05	410	"	102.5			
	.10	415	"	102.1			
	.15	420	"	100.6			
	.20	425	"	100	93.7	72.5	70.7

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle
				Charge 99		
	PM					
3-12-09	12.25	—	30	136	95.5	74
	30	2	"	1424		
	40	5	"	146		
	45	10	"	149.5		
	55	20	"	154.2		
	1.05	30	"	157		
	15	40	"	1612		
	25	60	"	165		
	35	80	"	166	89.5	72.7
	2.15	100	"	1638		
	35	120	"	1657		
	55	140	"	167.8	87.5	74
	3.15	160	"	168		
	35	180	"	1683		
	55	200	"	1686	85.2	71.2
	4.15	220	"	1695		
	35	240	"	1692		
	55	260	"	169	84.2	71.2
	5.15	280	"	170		
	35	300	"	171		
	55	320	"	172.5	84.5	71
	6.15	340	"	173.5		
	35	360	"	173.5		
	55	380	"	173.5	86	72.5

DATE	TIME	MIN	AMPS	VOLT 394	TEMP. 394	TEMP. Idle
	PM					
3-12-09	7.15	400	30	186		
	35	420	"	1922	83.7	71.5
	55	440	"	193		
	8.15	460	"	1935		
	35	480	"	1932	86	71.5
	55	500	"	194		
	9.15	520	"	196		
	35	540	"	194	90	71.5
	55	560	"	196		
	10.15	580	"	1955		
	55	600	"	1955	92	71.5
	55	620	"	1957		
	11.15	640	"	1954		
	35	660	"	1955	91.5	71.5
	55	680	"	1954		
	AM					
3/13	12.15	700	"	1952		
	35	720	"	1953	94.5	72.5
	55	740	"	195		
	1.15	760	"	1951		
	35	780	"	1953	93.2	72.7
	55	800	"	1955		
	2.15	820	"	1955		
	35	840	"	1955	92.5	70.5
	55	860	"	1955		
	55	880	"	1955		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Odle	
2/13/09	AM 3.35	900	30	125.2	92.2 (93.2)	70.5	-15 line
				Discharge			
2/13	AM 3.35	—	7	127.9			
	.40	"	30	151			
	.42	2	"	143.7			
	.45	5	"	139.4			
	.50	10	"	137.4			
	4.00	20	"	135			
	.10	30	"	133.6			
	.20	40	"	132.2			
	.30	50	"	129.7	92	70.7	
	5.00	80	"	127.8			
	.20	100	"	125.7			
	.40	120	"	124.6	91.7	71.7	
	6.00	140	"	123.3			
	.20	160	"	122.3			
	.40	180	"	121.7	92	72.7	
	7.00	200	"	121			
	.20	220	"	120.5			
	.40	240	"	119.8	92.7	74	
	8.00	260	"	119			
	.20	280	"	118.2			
	.40	300	"	117.2	93.7	74.5	
	9.00	320	"	116			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Odle	
3-13-09	AM 9.20	340	30	1.146			
	.40	360	"	1.13	93.2	74.2	
	10.00	380	"	1.106			
	.20	400	"	1.08			
	.30	410	"	1.065			
	.40	420	"	1.038			
	.45	425	"	1.025	92.2	74	
	.50	430	"	1.002			
	.55	435	"	1.00	94.7	74	-2161
				Stood idle 4½ hrs over Sunday			
				Charge 100			
3-16-09	AM 4.00	0	30	1.47	71.5	70.5	
	.02	2	"	1.52			
	.05	5	"	1.60			
	.10	10	"	1.63			
	.20	20	"	1.665			
	.30	30	"	1.69			
	.40	40	"	1.70			
	5.00	60	"	1.695	71	70	
	.20	80	"	1.69			
	.40	100	"	1.68			
	6.00	120	"	1.66	70	70	
	[illegible]	[illegible]	"	1.65			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Adb	
7-15-[illegible]	AM 6:40	160	20	189.7			
	7:00	1:00	"	189	92.5	7.0	
	20	200	"	189.5			
	40	220	"	190			
	8:00	240	"	190.5	93.5	7.0	
	20	260	"	191			
	40	280	"	192			
	9:00	300	"	192.3	93.5	7.1	
	20	320	"	192.7			
	40	340	"	192.6			
	10:00	360	"	192	94.2	7.1	
	20	380	"	192.5			
	40	400	"	192.7			
	11:00	420	"	192.2	8.0	7.1.2	
	20	440	"	192.4			
	40	460	"	192.5			
	PM 12:00	480	"	192.7	9.7	7.1.2	
	20	500	"	192			
	40	520	"	192.2			
	1:00	540	"	192	97.5	7.1	
	20	560	"	192.2			
	40	580	"	192.3			
	2:00	600	"	192.2	99.2	7.1.2	
	20	620	"	192			
	40	640	"	192			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Adb	
3-15	PM 3:00	660	30	192.7	92	7.1.5	
	20	680	"	192			
	40	700	"	192.1			
	4:00	720	"	192.5	92	7.2	
	20	740	"	192.7			
	40	760	"	192.2			
	5:00	780	"	192.2	93.5	7.3	
	20	800	"	192			
	40	820	"	192.5			
	6:00	840	"	192.7	95.2	7.3.5	
	20	860	"	192.5			
	40	880	"	192.4			
	7:00	900	"	192.2	96	7.4.5	— 15 hrs.
					(362)		
3/15	PM	Discharge					100
	7:03	—	40	159			
	05	40	30	158			
	07	2	"	147.2			
	10	5	"	138.6			
	15	10	"	132.6			
	20	20	"	132.2			
	25	30	"	132.2			
	30	40	"	132			
	35	50	"	132.2	96	7.5	

DATE	TIME	MIN.	AMPS	VOLTS	TEMP. 398	TEMP. 398	Addl
3/25/09	PM 8.45	180	30	125.8			
	9.05	120	"	124.2	95.7	75	
	.25	140	"	123.6			
	.45	160	"	122.2			
	10.05	180	"	121.7	96	76.7	
	.25	200	"	120.9			
	.45	220	"	121.1			
	11.05	240	"	119.4	97	76	
	.25	260	"	118.5			
	.45	280	"	118			
3-16-09	AM 12.05	300	"	116.7	98	76	
	.25	320	"	116			
	.45	340	"	114.7			
	1.05	360	"	113.5	98	76.2	
	.25	380	"	112.5			
	.45	400	"	109.5			
	.65	410	"	104			
		current off 5 minutes					
	2.04	420	"	102.2	99	76.2	
	.11	425	"	100.2			
	.12	426	"	100			=213

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP. 398	TEMP. Addl
			Change = 10.1			
3-16-09	PM 2.30	0	30	1.58	101	77
	.32	2	"	1.627		
	.35	5	"	1.66		
	.40	10	"	1.697		
	.50	20	"	1.552		
	3.00	30	"	1.58		
	.10	40	"	1.615	96	77.5
	.30	60	"	1.64		
	.50	80	"	1.652		
	4.10	100	"	1.655	94.5	77
	.30	120	"	1.658		
	.50	140	"	1.657		
	5.10	160	"	1.66		
	.30	180	"	1.665	90.5	77
	.50	200	"	1.667		
	6.10	220	"	1.672		
	.30	240	"	1.68	92.5	76.5
	.50	260	"	1.69		
	7.10	280	"	1.702		
	.30	300	"	1.712	99	76
	.50	320	"	1.722		
	8.10	340	"	1.73		
	.30	360	"	1.735	87	75
	.50	380	"	1.739		

DATE	TIME	MIN	AMPS	VOLTS 394	TEMP. 394	TEMP. Gdle	
3-16-49	AM. 9.10	400	30	1774			
	30	450	"	1797	87.7	74	
	50	440	"	1847			
	10.10	460	"	1846			
	30	480	"	1855	88	76.7	
	50	500	"	186			
	11.10	520	"	1862			
	30	540	"	1865	88.5	71.5	
	50	560	"	1865			
	PM. 12.10	580	"	1867			
	30	600	"	1867	89	71	
	50	620	"	1865			
	1.10	640	"	186			
	30	660	"	186	91	70.5	
	50	680	"	186			
	2.10	700	"	186			
	30	720	"	186	91.5	70.7	
	50	740	"	1857			
	3.10	760	"	1857			
	30	780	"	1857	92	70.5	
	50	800	"	1857			
	4.10	820	"	1855			
	30	840	"	1857	93	70.5	
	50	860	"	1855			
	5.10	880	"	1855			

DATE	TIME	MIN	AMPS	VOLTS 394	TEMP. 394	TEMP. Gdle	
3-16	AM. 5.30	900	30	1852	92.5 (92.5)	71	-15 lms.
				Discharge*			101
3-16	PM. 5.33	—	Open	1592			
	35	0	30	1591			
	37	2	"	1425			
	40	5	"	1385			
	45	10	"	137			
	55	20	"	135			
	6.05	30	"	1333			
	15	40	"	131.8			
	35	60	"	129.5	92.2	71	
	55	80	"	127.4			
	7.15	100	"	125.8			
	35	120	"	124.2	91.5	71.5	
	55	140	"	123			
	8.15	160	"	122.1			
	35	180	"	121.4	90	71	
	55	200	"	121			
	9.15	220	"	120.1			
	35	240	"	119.7	90.5	71	
	55	260	"	119			
	10.15	280	"	118.2			
	35	300	"	117.2	91.5	71.5	
	55	320	"	116			

Date	Time	Min.	Amp.	Volts 398	Temp 398	Temp Cable	
	PM						
2-16-09	1.45	340	20	1.147			
	.35	360	"	1.172	92.5	72.5	
	.45	380	"	1.11			
	PM						
2-17-09	12.15	400	"	1.095			
	.25	410	"	1.065			
	.35	420	"	1.045	92.2	72.5	
	.45	430	"	1.017			
	.50	435	"	1.00			217.5
			Change 10%				
	AM						
2-17-09	1.05	0	20	1.32	95.5	72.5	
	.07	2	"	1.432			
	.10	5	"	1.472			
	.15	10	"	1.502			
	.25	20	"	1.525			
	.35	30	"	1.535			
	.45	40	"	1.541			
	2.05	60	"	1.545	92.5	72.5	
	.25	80	"	1.552			
	.45	100	"	1.555			
	3.05	120	"	1.559	92.2	72.2	
	.25	140	"	1.559			
	.45	160	"	1.560			
	4.05	180	"	1.559	90.5	74	
	.25	200	"	1.559			

Date	Time	Min.	Amp.	Volts 398	Temp 398	Temp Cable	
	AM						
2-17-09	4.45	220	20	1.677			
	5.05	240	"	1.682	89	74	
	.25	260	"	1.693			
	.45	280	"	1.697			
	6.05	300	"	1.705	89.2	74.5	
	.25	320	"	1.715			
	.45	340	"	1.725			
	7.05	360	"	1.735	89	74.5	
	.25	380	"	1.75			
	.45	400	"	1.78			
	8.05	420	"	1.90	89.5	74.5	— 7 hrs.
					(91)		
			Discharge 10%				
	AM						
2-17-09	8.08	—	20 amp	1.595			
	.10	2	30	1.50			
	.12	2	"	1.43			
	.15	5	"	1.295			
	.20	10	"	1.26			
	.30	20	"	1.235			
	.40	30	"	1.217			
	.50	40	"	1.202			
	9.10	60	"	1.178	88	74	
	.30	80	"	1.16			
	.50	100	"	1.145			
	10.10	120	"	1.134	88.5	74.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solar	
3-17-09	A.M. 10.30	140	30	1224			
	50	160	"	1215			
	11.10	180	"	1206	89.5	74.7	
	30	200	"	1202			
	50	220	"	1192			
	P.M. 12.10	240	"	1185	90.2	74.7	
	30	260	"	117			
	50	280	"	116			
	1.10	300	"	114.4	92.5	75.2	
	30	320	"	112			
	50	340	"	110			
	2.00	350	"	108			
	10	360	"	1.057	93	75.2	
	15	365	"	104			
	20	370	"	1025			
	25	375	"	101			
	29	379	"	100	92.2	75.2	-189.5
				Charge	# 103		
3-17-09	P.M. 2.45	—	30	138	(91)		
	47	2	"	143.9			
	50	5	"	146.6			
	55	10	"	151			
	3.05	20	"	156.3			
	[illegible]	[illegible]	[illegible]	159.9			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solar	
3/17/09	P.M. 3.25	40	30	162.2			
	45	60	"	165	90	72.7	
	4.05	80	"	164			
	25	100	"	165			
	45	120	"	165.5	89.2	73.5	
	5.05	140	"	165.6			
	25	160	"	166.1			
	45	180	"	166.2	88	73.7	
	6.05	200	"	167			
	25	220	"	167.6			
	45	240	"	168.1	88	74.5	
	7.05	260	"	169			
	25	280	"	170.7			
	45	300	"	171.9	87	74.5	
	8.05	320	"	173.5			
	25	340	"	175.2			
	45	360	"	177.2	85.5	73.2	
	9.05	380	"	179.9			
	25	400	"	181.9			
	45	420	"	183.3	87	73	-7 hrs
					(92)		
				Discharge	# 103		
3/17	P.M. 9.48	—	30	156.6			
	50	2	"	149			
	52	4	"	141.2			

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS 1022	
	PM						
3/17/09	9.55	5	20	137.7			
	10.00	10	"	137.6			
	.10	20	"	137			
	.20	30	"	137.5			
	.30	40	"	137.1			
	.50	60	"	127.7	86	73	
	11.10	80	"	1258			
	.30	100	"	1262			
	.50	120	"	1232	93	73	
	AM						
3-18-09	12.10	140	"	1222			
	.30	160	"	1213			
	.50	180	"	1209	96	72.5	
	1.10	200	"	1220			
	.30	220	"	1193			
	.50	240	"	1192	98.5	73	
	2.10	260	"	1167			
	.30	280	"	1155			
	.50	300	"	1154	99.5	73	
	3.10	320	"	1115			
	.30	340	"	1089			
	.50	360	"	1067			
	.50	380	"	1042	91	72.5	
	4.00	390	"	1013			
	.04	394	"	1000			-187

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP 1022	
				Change 104			
	AM.						
3-18-09	4.20	0	20	1.32	91.5	72.5	
	.22	2	"	1225			
	.25	5	"	1.16			
	.30	10	"	1.50			
	.40	20	"	1.55			
	.50	30	"	1.55			
	5.00	40	"	1.62			
	.20	60	"	1.62	91	72.7	
	.40	80	"	1.65			
	6.00	100	"	1.66			
	.20	120	"	1.66	89.7	74	
	.40	140	"	1.66			
	7.00	160	"	1.65			
	.20	180	"	1.67	88	72.5	
	.40	200	"	1.66			
	8.00	220	"	1.65			
	.20	240	"	1.67	84	72.5	
	.40	260	"	1.70			
	9.05	285	"	1.72			
	20	300	"	1.72.5	84.7	72	
	40	320	"	1.74			
	10.00	340	"	1.74			
	20	360	"	1.73.5	85.5	72.5	
	40	380	"	1.70			

DATE	TIME	MIN.	AMP.	VOLTS #398	Temp #398	Temp Cable
3-15-09	A.M. 11.00	400	30	1326		
	20	420	"	1324	87.7	73.5
					97.6	
				Discharge	104	
3-16-09	A.M. 11.23	—	0 p.m.	154		
	25	0	30	146		
	27	2	"	142.5		
	30	5	"	134		
	35	10	"	136		
	45	22	"	132.7		
	55	30	"	132		
	P.M. 12.05	40	"	130.5		
	20	60	"	129	88.5	72.7
	45	80	"	126		
	1.05	100	"	124.5		
	25	120	"	123.6	89	74
	45	140	"	122.5		
	2.05	160	"	121.7		
	25	180	"	121	89	74
	45	200	"	120		
	3.05	220	"	119.2		
	25	240	"	118.2	89	74.2
	45	260	"	117		
	4.05	280	"	115.6		
	25	300	"	114.7	90	74.5

DATE	TIME	MIN.	AMPS.	VOLTS 398	T.E.M.P. 398	T.E.M.P. Cable
3-18-09	P.M. 4.45	320	30	1112		
	5.05	340	"	1085		
	45	360	"	1065		
	25	380	"	1045	92	75.5
	30	365	"	1026		
	35	370	"	1011		
	38½	373½	"	100	92.2	76 — 1849
3/18	P.M.			Charge	115	
	6.05	0	30	1397	94.5	76
	07	2	"	1443		
	10	5	"	147		
	15	10	"	150.5		
	25	20	"	156		
	35	30	"	159.4		
	45	40	"	161.7		
	7.05	60	"	164.7	94	77
	25	80	"	165		
	45	100	"	165		
	8.05	120	"	165	92	77
	125	140	"	165.2		
	45	160	"	165.5		
	9.05	180	"	165.5	91.5	77.7
	20	200	"	165.2		

DATE	TIME	MIN	AMP	VOLT. 298	TEMP 298	TEMP IDLE
	PM					
3/18/09	9.45	220	30	166.8		
	10.05	240	"	167.6	91.	78.5
	.25	260	"	168.4		
	.45	280	"	169.5		
	11.05	300	"	170.7	94.5	77
	.25	320	"	172		
	.45	340	"	172		
	AM					
3-19-09	12.05	360	"	1.147	92	80
	.25	380	"	.178		
	.45	400	"	1.209		
	1.05	420	"	1.226	92.5	79
					93.3	
			Discharge		105	
	AM					
3-19-09	1.05	—	0	1.382		
	.10	0	20	1.50		
	.12	2	1	1.409		
	.15	5	"	1.365		
	.20	10	"	1.362		
	.30	20	"	1.332		
	.40	30	"	1.317		
	.50	40	"	1.309		
	2.10	60	"	1.30	91.5	78.2
	.30	80	"	1.266		
	.50	100	"	1.249		
	3.10	120	"	1.235	91.5	77.5

DATE	TIME	MIN.	AMP	VOLTS 298	TEMP 298	TEMP IDLE
	AM.					
3-19-09	3.30	140	30	1.221		
	.50	160	"	1.217		
	4.10	180	"	1.212	91.5	77.2
	.30	200	"	1.203		
	.50	220	"	1.195		
	5.10	240	"	1.185	91.5	77
	.30	260	"	1.173		
	.50	280	"	1.162		
	6.10	300	"	1.14	91.5	75.2
	.30	320	"	1.12		
	.50	340	"	1.097		
	7.00	350	"	1.075		
	.10	360	"	1.045	92	74.7
	.20	370	"	1.017		
	.24	374	"	1.00		-197.2
			Change	106		
3-19-09	AM. 7.25	0	30	1.30	93	74.2
	.27	2	"	1.402		
	.30	5	"	1.44		
	.35	10	"	1.492		
	.45	20	"	1.549		
	.55	30	"	1.565		
	8.05	40	"	1.615		
	.25	60	"	1.62	92.5	75.7

DATE	TIME	MIN.	AMP	VOLTS 39R	TEMP 39R	TEMP idle
3-19	A.M. 8.45	80	20	1654		
	9.05	100	"	1655		
	25	120	"	1655	844	73.5
	45	140	"	1658		
	10.05	160	"	166		
	25	180	"	1665	852	73.7
	45	200	"	1664		
	11.05	220	"	1674		
	25	240	"	168	88	74.5
	47	260	"	169		
	P.M. 12.02	281	"	1702		
	25	300	"	1715	842	74.7
	45	320	"	1727		
	1.05	340	"	1745		
	25	360	"	1765	89	75
	45	380	"	179		
	2.09	404	"	1827		
	25	420	"	183.5	90	75
					892	1
				Discharge		106
3/19	P.M. 2.28	—	1pm	1572		
	30	0	30	150		
	32	2	"	142		
	35	5	"	1379		
	43	13	"	1354		

DATE	TIME	MIN	AMPS	VOLTS 39R	TEMP 39R	TEMP IDLE
3/19/77	P.M. 2.50	20	30	1237		
	3.00	30	"	132		
	10	40	"	1302		
	30	60	"	1278	90.5	75
	50	80	"	126		
	4.10	100	"	1255		
	30	120	"	1232	89	75
	50	140	"	1224		
	5.10	160	"	1217		
	30	180	"	121	89.5	75
	50	200	"	120		
	6.10	220	"	119.6		
	30	240	"	119.5	91.2	75
	50	260	"	117.4		
	7.10	280	"	115.8		
	30	300	"	114	92	74.5
	50	320	"	111.9		
	8.10	340	"	109		
	30	360	"	105	93.5	74.7
	50	380	"	101.7		
	9.15	425	"	100	93.5	74.7 — 1977

DATE	TIME	MIN	AMP	VOLTS 39K	TEMPS 39K	1026
2/10/09			Charge		107	
	PM 9.00	0	20	137	94.5	74.7
	.02	2	"	143.2		
	.05	5	"	146.3		
	.10	10	"	149.6		
	.20	20	"	155		
	.30	30	"	158.7		
	.40	40	"	161.2		
	10.00	60	"	164.6	92.5	75
	.20	80	"	164.4		
	.40	100	"	165.4		
	11.00	120	"	167.7	91	75
	.20	140	"	166.2		
	.40	160	"	165.9		
2-20-09	AM 12.00	180	"	166.5	90.2	73.2
	.20	200	"	166.4		
	.40	220	"	166.5		
	1.00	240	"	168	89.8	73.2
	.20	260	"	166.2		
	.40	280	"	166.5		
	2.00	300	"	171	89	73
	.20	320	"	173.5		
	.40	340	"	173.5		
	3.00	360	"	174.5	89	73.2
	.20	380	"	174.5		

DATE	TIME	MIN.	AMP	VOLTS 39K	T. 39K	TEMP Solar
2-20-09	AM 3.40	400	20	122		
	4.00	420	"	124	90.2	73.2
					90.7	
				Discharge	107	
2-20-09	AM 4.02	—	0 amp	137		
	.05	0	20	130		
	.07	2	"	142		
	.10	5	"	138		
	.15	10	"	136.2		
	.25	20	"	134		
	.35	30	"	132.2		
	.45	40	"	130.7		
	5.00	60	"	129.2	90.2	74.7
	.25	80	"	126.3		
	.45	100	"	124.7		
	6.00	120	"	124	90	74.7
	.25	140	"	122.7		
	.45	160	"	121.7		
	7.00	180	"	120.7	89.7	74.7
	.25	200	"	120.2		
	.45	220	"	119.4		
	8.00	240	"	118.5	89.7	74.7
	.25	260	"	117.2		
	.45	280	"	115.5		
	9.00	300	"	114	90.2	73.7

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Cells	
	A.M.						
3-20	9.05	320	30	111.5			
	45	340	"	108.5			
	10.05	360	"	104	94	74	
	15	370	"	100.5			
	18	378	"	100	94.2	74	-18.65
	Stand 51 hrs. over Sunday						
				Charge # 108			
	P.M.						
3-22	1.10	0	30	1.50	74	74	
	12	2	"	1.57			
	15	5	"	1.60			
	20	10	"	1.62			
	30	20	"	1.664			
	40	30	"	1.693			
	50	40	"	1.693			
	2.10	60	"	1.69	79	74.5	
	30	80	"	1.694			
	50	100	"	1.66			
	3.10	120	"	1.68	81.7	75	
	30	140	"	1.652			
	50	160	"	1.664			
	4.10	180	"	1.656	82.5	74.7	
	30	200	"	1.652			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Cells	
	P.M.						
3-22	4.50	220	30	176			
	5.10	240	"	1.705	82.5	75	
	30	260	"	1.711			
	50	280	"	1.725			
	6.10	300	"	1.732	84.5	75	
	30	320	"	1.745			
	50	340	"	1.75			
	7.10	360	"	1.78	89	75	
	30	380	"	1.90			
	50	400	"	1.92			
	8.10	420	"	1.942	89	75	
					(82.6)		
				Discharge # 108			
	PM						
3-22-09	9.13	—	off	1.58			
	15	0	30	1.50			
	17	2	"	1.42			
	20	5	"	1.38			
	25	10	"	1.36			
	35	20	"	1.335			
	45	30	"	1.315			
	55	40	"	1.304			
	9.15	60	"	1.28	90	75.7	
	35	80	"	1.26			
	55	100	"	1.243			
	10.15	120	"	1.235	89.5	75.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Pile	
3-22-09	PM 1.03	140	30	122			
	.55	150	"	122			
	11.15	180	"	121.2	89	75.5	
	.35	220	"	120.2			
	.55	230	"	119.9			
3/23	AM 12.15	240	"	118.9	89.5	75.2	
	.35	260	"	117.8			
	.55	280	"	116.2			
	1.15	300	"	114.2	90	75	
	.35	320	"	112			
	.45	330	"	110.7			
	.55	340	"	109			
	2.05	350	"	106.6			
	1.15	360	"	103.9	92	74.2	
				current off			on (1) minute
	.26	370	30	100.5			
	.27½	371½	"	100	91	74.2	-195.7
3/23			charge			109	
	PM 2.45	0	30	140	92	74	
	.47	2	"	144.7			
	.50	5	"	147.4			
	.55	10	"	151			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS 10215	
3/27/09	AM 3.05	20	30	158.2			
	.15	30	"	160.1			
	.25	40	"	162.8			
	.45	60	"	165.9	92	73.7	
	4.05	80	"	166.2			
	.25	100	"	166.1			
	.45	120	"	166.1	88	73.2	
	5.05	140	"	166.5			
	.25	160	"	166.5			
	.45	180	"	167	86	73	
	6.05	210	"	167.9			
	.25	230	"	168.4			
	.45	240	"	169.5	84.7	73	
	7.05	260	"	170.5			
	.25	280	"	171.1			
	.45	300	"	172.5	84.7	72.7	
	8.05	320	"	174.2			
	2.5	340	"	1.558			
	45	360	"	177.8	85	72	
	9.05	380	"	1.81			
	25	400	"	1.838			
	.45	420	"	1.847	86	72.5	
					87		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle
			Discharge #109			
3-23	P.M. 9 48	-	Open 109			
	50	0	30	1495		
	52	2	"	1.42		
	55	5	"	1.38		
	10.00	10	"	1.36		
	.10	20	"	1.337		
	.20	30	"	1.32		
	.30	40	"	1.305		
	.50	60	"	1.28	87	785
	11.10	80	"	1.26		—
	30	100	"	1.245		
	50	120	"	1.234	88	74
	P.M. 1.10	140	"	1.222		
	30	160	"	1.215		
	50	180	"	1.203	89	75
	1.10	200	"	1.197		
	30	220	"	1.197		
	50	240	"	1.186	90	75
	2.10	260	"	1.174		
	30	280	"	1.177		
	50	300	"	1.17	94.5	77
	3.10	320	"	1.115		
	30	340	"	1.094		
	40	350	"	1.068		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle
3-23-09	P.M. 3.50	360	30	1.025	94.5	77
	current off 1 minute					
	.54	365	"	1.02		
	4.01	370	"	1.00	95.2	77	-185
				Charge #110		
3-23	P.M. 4.55	-	30	1.52	93	77
	.57	2	"	1.462		
	5.00	5	"	1.49		
	.05	10	"	1.515		
	.15	20	"	1.575		
	.25	30	"	1.612		
	.35	40	"	1.63		
	.55	60	"	1.662	93	78.2
	6.15	80	"	1.60		
	.35	100	"	1.67		
	.55	120	"	1.67	94.2	79
	7.15	140	"	1.667		
	.35	160	"	1.662		
	.55	180	"	1.665	90	79
	8.15	200	"	1.672		
	.35	220	"	1.68		
	.55	240	"	1.687	92	79
	9.15	260	"	1.677		

DATE	TIME	MIN.	AMP	VOLTS	TEMP.		
					39K	39K	10K
	PM.						
2-23-09	9.25	280	30	121			
	.35	300	"	1725	89	77.5	
	10.15	320	"	1732			
	.35	340	"	1745			
	.55	360	"	177.	90	77.5	
	11.15	380	"	180.1			
	.35	400	"	182.4			
	.55	420	"	183.6	91.5	77.2	
					92.5		
				Discharge	110		
3/23	PM 11.58	0	30	151.1			
3/24	AM 12.00	0	30	149			
	.02	2	"	142.1			
	.05	5	"	138.2			
	.10	10	"	136.5			
	.20	20	"	134			
	.30	30	"	132.3			
	.40	40	"	131			
	1.00	60	"	128.2	92	78	
	.20	80	"	126.3			
	.40	100	"	124.9			
	2.00	120	"	123.7	91.5	78	
	.20	140	"	122.6			
	.40	160	"	122			
	3.00	180	"	121.65	92.7	77.5	

DATE	TIME	MIN.	AMP	VOLTS	TEMPS		
					39K	39K	10K
3/24/09	AM 3.20	200	30	120.4			
	.40	220	"	119.9			
	4.00	240	"	119.	92	72.5	
	.20	260	"	117.7			
	.40	280	"	116.5			
	5.00	300	"	114.5	92.7	77	
	.20	320	"	112.1			
	.40	340	"	111.			
	.55	360	"	110			
	6.00	380	"	109	94	77	
	.05	385	"	109			
	.10	390	"	108.4			
	.12	395	"	108.4			
	117½	377½	"	100	92.5	77	-188.7
				Discharge	111		
	AM 6.40	0	30	140	93.7	77	
	.42	2	"	144			
	.45	5	"	147			
	.50	10	"	150.2			
	7.00	20	"	155.6			
	.20	30	"	159.			
	.20	40	"	162.1			
	.40	60	"	165.3	93	77	
	8.00	80	"	166.2			
	.20	100	"	166			
	8.20	120		166	90	77.5	

Date	Time	Min.	Amp	Volts	Temp.	
				Top	Top	Plate
3-24-09	AM. 9.00	140	30	1160		
	20	160	"	1166		
	40	180	"	1167	98	76
	1.00	200	"	1167		
	20	220	"	1168		
	40	240	"	1165	87	76
	1.00	260	"	1170		
	20	280	"	1169		
	40	300	"	1172	86	76
	2.00	320	"	1173		
	PM.					
	20	340	"	1172		
	40	360	"	1169	87	76
	3.00	380	"	1165		
	20	400	"	1163		
	40	420	"	1164	89	72.2
					89.3	
			Discharge			
	PM.					
3-24-09	1.43	—	off	1158		
	45	0	30	1150		
	47	2	"	1152		
	50	5	"	1145		
	55	10	"	1132		
	2.05	20	"	1135		
	15	30		1135		
	25	40				

Date	Time	Min.	Amp	Volts	Temp.	
				Top	Top	Plate
3/24/09	PM. 2.45	60	30	1232	89.2	75.5
	3.05	80	"	1243		
	25	100	"	1245		
	45	120	"	1237	89	74
	4.05	140	"	1232		
	25	160	"	1217		
	45	180	"	1211	90	73.7
	5.05	200	"	1203		
	25	220	"	1195		
	45	240	"	1186	92	74
	6.05	260	"	1175		
	25	280	"	1162		
	45	300	"	1152	90	74
	7.05	320	"	1132		
	15	330	"	1112		
	25	340	"	1097		
	35	350	"	1079		
	45	360	"	1057	955	74
			Current off 1 minute			
	51	365	"	1024		
	56	370		1015		
	6.01	375		1017		
	03	378		1000	955	74

DATE	TIME	MIN	AMPS	VOLTS 395	TEMP. 395	395	Sola
				Charge	#	112	
3/24/09	P.M. 9.00	–	30	144	90.7	75.2	
	22	2	"	147			
	25	5	"	150			
	30	10	"	153			
	40	20	"	158			
	50	30	"	1.615			
	10.00	40	"	164			
	20	60	"	166	90.2	75.2	
	40	80	"	1.662			
	11.00	100	"	166			
	20	120	"	166	90	75	
	40	140	"	166.1			
3/25	A.M. 12.00	160	"	166.2			
	20	180	"	166.5	89	76	
	40	200	"	167			
	1.00	220	"	167.5			
	20	240	"	168	88.5	76	
	40	260	"	169			
	2.00	280	"	170			
	20	300	"	171.6	89	76	
	40	320	"	172.4			
	3.00	340	"	173.8			
	20	360	"	175.7	89.5	76.5	
	40	380	"	176.8			

DATE	TIME	MIN	AMP	VOLTS 395	TEMPS 395	1065
3/25/09	A.M. 4.00	400	30	182.1		
	20	420	"	183	90.7 (90.9)	76.2
				Discharge		112
3/25	A.M. 4.23	–	open	188.6		
	25	0	30	149		
	27	2	"	142		
	30	5	"	135.1		
	35	10	"	134.2		
	45	20	"	133.8		
	55	30	"	132.1		
	5.05	40	"	130.3		
	25	60	"	128	91.7	76
	45	80	"	126.2		
	6.05	100	"	124.8		
	25	120	"	123.9	91.2	76
	45	140	"	123.2		
	7.05	160	"	122		
	25	180	"	121.2	91	76
	45	200	"	120.4		
	8.05	220	"	119.9		
	25	240	"	119	91.7	75.5
	45	260	"	117.8		
	9.05	280	"	116.3		
	25	300	"	114.5	91.8	75.5

DATE	TIME	MIN	AMPS.	VOLTS 398	TEMP. 398	TEMP. 39x	Idle	
3-25	P.M. 9.45	330	30	1.125				
	1.00	340	"	1.095				
	10	345	"	1.086				
	15	350	"	1.077				
	20	355	"	1.065				
	25	360	"	1.054	94	74		
				Current off 1 minute				
	31	365	"	1.05				
	36	370	"	1.032				
	41	375	"	1.03				
	42	376	"	1.00	95	75		-198
		Stood 18		minutes;		then	continued discharge	
	A.M. 11.00	0	30	1.12				
	02	2	"	1.03				
	05	5	"	1.002				
	10	10	"	.97				
	20	20	"	.932				
	30	30	"	.872				
	40	40	"	.819				
	50	50 (52)	"	.71 (50)				-215.2 to 50V/1
	55	55.2	"	.7	99	76.2		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 39x	Idle	
				Charge # 113			
3/25/09	P.M. 12.15	–	30	1.35	102	76.2	
	17	2	"	1.445			
	20	5	"	1.47			
	25	10	"	1.507			
	35	20	"	1.557			
	45	30	"	1.589			
	55	40	"	1.612			
	1.15	60	"	1.646	98.2	76	
	35	80	"	1.645			
	56	101	"	1.667			
	2.15	120	"	1.669	97.7	72.5	
	35	140	"	1.668			
	55	160	"	1.668			
	3.15	180	"	1.669	96.2	72	
	35	200	"	1.675			
	55	220	"	1.677			
	4.15	240	"	1.68	95.7	72.5	
	35	260	"	1.684			
	55	280	"	1.69			
	5.15	300	"	1.70	95	72	
	35	320	"	1.708			
	55	340	"	1.72			
	6.15	360	"	1.725	95	73	
	35	380	"	1.745			

DATE	TIME	MIN.	AMP	VOLTS	TEMP.		
3-25-09	P.M. 6.50	400	20	1769			
	7.15	420	11	1777	85	77.7	
					84.3		
			Discharge		113		
3-25-09	P.M. 7.18	—	off	1582			
	.20	0	20	1499			
	.22	2	"	1411			
	.25	5	"	1367			
	.30	10	"	1342			
	.40	20	"	132			
	.50	30	"	1305			
	8.00	40	"	1289			
	.20	60	"	1245	86	77.7	
	.40	80	"	1215			
	9.00	100	"	1214			
	.20	120	"	1225	87.5	72	
	.40	140	"	1222			
	10.00	160	"	1212			
	.20	180	"	1200	86.5	72	
	.40	200	"	1185			
	11.00	220	"	1174			
	.20	240	"	1175	88	72	
	.40	260	"	1161			
3/26	A.M. 12.00	280	"	1141			
	.20	300	"	1118	91	72.5	

DATE	TIME	MIN.	AMP	VOLTS	TEMP.		
3/26/09	A.M. 12.40	320	20	108.2			
	.50	330	"	107.7			
	1.00	340	"	112			
	.05	345	"	100			-172
	.05	345	"	97.7			
	.10	350	"	96.6			
	.15	355	"	92			
	.20	360	"	88.5	92.7	72	
	.25	365	"	87.8			
			current off				
	.31	370	30	77			
	.36	375	"	52.1			
	.36/.37	375/p	"	50	83.5	72	-197.7
			Stood ½ hours.				
				Charge # 114			
3-26	P.M. 9.10	0	30	156	74.7	70.7	
	.12	2	"	161			
	.15	5	"	1626			
	.20	10	"	1645			
	.30	20	"	1675			
	.40	30	"	1698			
	.50	40	"	1704			
	10.10	60	"	1701	74.7	70.7	
	.30	80	"	169			
	.50	100	"	1684			
	11.10	120	"	1684	81.7	72	
	.30	140	"	168			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Pole	
3-27	11.50 AM.	160	30	168			
	12.10	180	"	1682	885	72.5	
	30	200	"	1685			
	50	220	"	1685			
	1.10	240	"	169	842	73	
	30	260	"	170			
	50	280	"	171			
	2.10	300	"	172	845	73	
	50	320	"	173			
	50	341	"	1745			
	3.10	360	"	1753	855	72.7	
	30	380	"	179			
	50	400	"	181			
	4.10	420	"	182	865	72.7	
					834		
				Discharge: 1.14			
	P.M.						
3-28	4.13	—	Open	158			
	15	0	30	148			
	17	2	"	144			
	20	5	"	137			
	25	10	"	1347			
	35	20	"	1325			
	45	30	"	1312			
	55	40	"	130			
	5.15	60	"	1287	856	72.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Pole	
	P.M.						
3-28	5.55	80	30	1255			
	.55	100	"	1242			
	6.15	120	"	1237	865	72.5	
	.35	140	"	122			
	.55	160	"	1213			
	7.15	180	"	1209	89	73	
	.35	200	"	120			
	.55	220	"	1193			
	8.15	240	"	1192	90	73	
	.35	260	"	117			
	.55	280	"	1165			
	9.15	300	"	1122	912	73	
	.35	320	"	1109			
	.55	340	"	1062			
	10.05	350	"	1022			
	.0	354	"	100			-177
	.15	360	"	96	925	73	
				Current off limits			
	.24	370	"	89			
	.31	375	"	78			
	.34	380	"	50	95	73	-190

DATE	TIME	MIN.	AMP	VOLTS 39V	TEMP 39V	TEMP clear
				Change		115
3-26-09	PM 1050	0	20	143	95	74.2
	.52	2	"	149		
	.55	5	"	149		
	1100	10	"	15.45		
	.10	20	"	159		
	.20	30	"	161.7		
	.30	40	"	164		
	.40	50	"	166.1	95.2	73.7
3/27	12.10	80	"	166.6		
	.30	100	"	166		
	.50	120	"	166	92	73.5
	1.10	140	"	166.1		
	.30	160	"	166.2		
	.50	180	"	166.1	89.5	73
	2.10	200	"	167		
	.30	220	"	167.7		
	.50	240	"	168.1	88	72.5
	3.10	260	"	169		
	.30	280	"	169.9		
	.50	300	"	171.	87	72.2
	4.10	320	"	172.2		
	.30	340	"	173.7		
	.50	360	"	175.6	87	72
	5.10	380	"	177.8		

DATE	TIME	MIN	AMP	VOLTS 39V	TEMP 39V	TEMP IDLE
3/27/09	AM 5.30	400	30	178.3		
	.50	420	"	181.6	88.5	73
					(90.5)	
				Change		115
3/27	AM 5.50	—	2	15.9		
	55	0	30	148		
	5.57	2	"	147.3		
	6.00	5	"	136.2		
	.05	10	"	135		
	.15	20	"	132.5		
	.25	30	"	131.2		
	.35	40	"	129.9		
	.55	60	"	127.5	89	72.5
	7.15	80	"	125.7		
	.35	100	"	124.7		
	.55	120	"	123.	87.2	72.2
	8.15	140	"	122.2		
	.35	160	"	121.5		
	.55	180	"	120.6	87.5	72.5
	9.15	200	"	120		
	.35	220	"	119		
	.55	240	"	118	88	72.5
	10.15	260	"	117		
	.35	280	"	115.4		
	.55	300	"	113.4	89	71.5

DATE	TIME	MIN.	AMPS	VOLTS 358	TEMP. 358	TEMP. Pole	
	A.M.						
3-27	11.15	320	20	1.106			
	35	340	"	1.065			
	45	350	"	1.025			
	52	357	"	1.000			-1.985
	55	360	"	.98	92	71.7	
				Current off 2 minutes			
	PM						
	12.02	365	"	.95			
	07	370	"	.90			
	17	380	"	.77			
	21	384	"	.50	93.2	71.7	-1.922
				Stood over Sunday 44 hours			
3/29				Charge		116	
	P.M.						
	8.10	0	30	1.50	72	73	
	12	2	"	1.64			
	15	5	"	1.657			
	20	10	"	1.677			
	30	20	"	1.705			
	40	30	"	1.705			
	50	40	"	1.715			
	9.10	60	"	1.71	77	73	
	30	90	"	1.702			
	60	120	"	1.692			
	10.10	120	"	1.692	80	73	

DATE	TIME	MIN	AMPS	VOLTS 358	TEMP. 358	TEMP. Pole	
	PM						
3-29-09	10.30	140	30	1.69			
	50	160	"	1.687			
	11.10	180	"	1.69	91.2	73	
	30	200	"	1.685			
	50	220	"	1.70			
	12.10	240	"	1.705	93	73	
	30	260	"	1.712			
	50	280	"	1.722			
	1.10	300	"	1.732	95	73	
	30	320	"	1.742			
	50	340	"	1.76			
	2.10	360	"	1.77	93.2	73	
	30	380	"	1.79			
	50	400	"	1.815			
	3.10	420	"	1.83	95.7	73	
					95.7		
				Discharge # 116			
	PM						
3-29-09	3.13	open	—	1.982			
	15	0	30	1.50			
	17	2	"	1.405			
	20	5	"	1.375			
	25	10	"	1.347			
	35	20	"	1.325			
	45	30	"	1.311			
	55	40	"	1.297			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Pole	
	PM						
3-27-69	4.15	60	20	1.232	89	73.7	
	.35	90	"	1.255			
	.55	100	"	1.242			
	5.15	120	"	1.223	88.	73.5	
	.35	140	"	1.222			
	.55	160	"	1.212			
	6.15	180	"	1.207	87.7	74.	
	.35	200	"	1.202			
	.55	220	"	1.192			
	7.15	240	"	1.182	92.	74.7	
	.35	260	"	1.172			
	.55	280	"	1.16			
	8.15	300	"	1.14	93.5	76	
	.35	320	"	1.11			
	.55	340	"	1.067			
	9.05	350	"	1.027			
	10	355	"	1.00			77.5
	.15	360	"	.962	95.2	76.2	
	.25	370	"	.88			
	.35	380	"	.622			
	.39	384	"	.50	96.7	76.2	77.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Pole	
				Charge # 117			
	PM						
3/19/69	9.50	0	30	1.44	100.7	76.2	
	52	2	"	1.505			
	55	5	"	1.522			
	10.00	10	"	1.55			
	10	20	"	1.587			
	20	30	"	1.61			
	30	40	"	1.632			
	50	60	"	1.65	97.7	77	
	11.10	80	"	1.65			
	30	100	"	1.657			
	50	120	"	1.65	96	77.2	
3/20	AM 12.10	140	"	1.654			
	30	160	"	1.652			
	50	180	"	1.659	94.2	77.5	
	1.10	200	"	1.62			
	30	220	"	1.67			
	50	240	"	1.73	93	77.5	
	2.10	260	"	1.7			
	30	280	"	1.7			
	50	300	"	1.70	92.2	77	
	3.10	320	"	.171			
	30	340	"	172.1			
	50	360	"	173.1	92	77.5	
	4.10	380	"	173.7			

DATE	TIME	MIN	AMPS	VOLTS 298	TEMP 298	TEMP Idle
3/31/09	AM 4.20	420	30	157.5		
	15	4 10	"	150.2	91.5	77.15
					94.6	
			Discch. rate			127
3/30	AM 4.53	-	30	157.4		
	55	4	30	149.7		
	57	2	"	140.3		
	5.00	5	"	137.7		
	05	10	"	135		
	15	20	"	133		
	25	30	"	131.2		
	35	40	"	129.6		
	45	60	"	127.1	92	77.7
	6.15	80	"	125.6		
	25	100	"	124		
	55	120	"	122.9	91.7	76.5
	7.15	140	"	122.1		
	35	160	"	121.4		
	55	180	"	120.8	91	75.7
	8.15	200	"	119.9		
	35	220	"	119		
	55	240	"	118	90.5	75
	9.15	260	"	116		
	35	280	"	115		
	55	300	"	115	90.5	75

DATE	TIME	MIN	AMPS	VOLTS 298	TEMP 298	TEMP Idle	
3-30-09	AM 10.15	320	30	102			
	35	340	"	102			
	55	360	"	100			
				current off 1 minute			
	52	356	"	100			-198.
	56	360	"	96	94.5	75	
	11.04	370	"	95			
	10	374	"	109			
	14	380	"	50	95	75	-190.
				Charge		118.	
3-30-09	AM 11.30	0	30	146	98	75	
	32	2	"	151.5			
	35	5	"	153			
	40	10	"	154			
	50	20	"	155			
	1.00	30	"	156			
	10	40	"	165			
	30	60	"	166	94.5	75	
	50	80	"	166			
	1.10	100	"	166			
	30	120	"	166	95	75	
	50	140	"	166			
	2.00	160	"	166			

Date	Time	Min.	Amp.	Volts	Temp 298	Temp 298	Temp 298
2-20-09	PM 7.30	160	30	1.47	89.7	72.7	
	.50	200	"	1.472			
	8.10	220	"	1.475			
	.30	240	"	1.482	88.5	74	
	.60	260	"	1.49			
	9.10	280	"	1.492			
	.30	300	"	1.492	87.7	74.2	
	.50	320	"	1.73			
	10.10	340	"	1.742			
	.30	360	"	1.76	86.7	74.2	
	.60	380	"	1.789			
	11.10	400	"	1.807			
	.30	420	"	1.827	87	74	
					(93.2)		
			Discharge	1.18			
3/30/09	PM 6.33	—	0 min	1.582			
	6.35	0	30	1.482			
	37	2	"	1.462			
	40	5	"	1.375			
	45	10	"	1.355			
	55	20	"	1.335			
	7.05	30	"	1.312			
	15	40	"	1.297			
	35	60	"	1.272	85.5	72.7	
	55	80	"	1.255			

Date	Time	Min.	Amp	Volts 298	Temp 298	Temp 298
3/30/09	PM 8.15	100	30	1.245		
	.35	120	"	1.235	89	74
	.55	140	"	1.227		
	9.15	160	"	1.22		
	.35	180	"	121	91.5	75
	.55	200	"	1.20		
	10.15	220	"	1.19		
	.35	240	"	1.182	91.5	75.5
	.55	260	"	117.3		
	11.15	280	"	11.57		
	.35	300	"	114	92.2	75
	.55	320	"	111.5		
3/31	AM 12.15	340	"	107.9		
	.35	360	"	105		
	.55	360	"	100.4	95	75.2
	.37	362	"	100		1.81
				current off 1 minute		
	.56	370	30	94.3		
	.56	380	"	90.3		
	1.04	388½	"	50	95.2	75	104.2

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 39.5	39.5	104.6
3/31/99			Charge		119		
	AM 1:20	0	30	146.6	94	75	
	:22	2	"	150			
	:25	5	"	153			
	:30	10	"	155.2			
	:40	20	"	158.8			
	:50	30	"	161.4			
	2:00	40	"	163.8			
	:20	60	"	165.7	96.5	75	
	:40	80	"	165.7			
	3:00	100	"	165.8			
	:20	120	"	165.8	94	75	
	:40	140	"	165.7			
	4:00	160	"	165.8			
	:20	180	"	166	92	75	
	:40	200	"	166.2			
	5:00	220	"	166.7			
	:20	240	"	167.2	90.7	75	
	:40	260	"	167.9			
	6:00	280	"	169			
	:20	300	"	170	90.5	75	
	:40	320	"	171.2			
	7:00	340	"	172.3			
	:20	360	"	173.6	91	75.5	
	:40	380	"	175.8			

DATE	TIME	MIN	AMPS	VOLTS 39.5	TEMPS 39.5	104.6
3/31/99	AM 8:00	420	30	176.7		
	:20	420	"	171.2	89.2	74.7
					97.7	
				Discharge	119	
3/31	AM 8:22	–	0 PM	154		
	:27	0	30	146		
	:30	5	"	140.4		
	:35	10	"	137.2		
	:45	20	"	133.1		
	:55	30	"	131.3		
	9:05	40	"	130		
	:25	60	"	127.2	88.5	74
	:45	80	"	125.7		
	10:05	100	"	124.2		
	:25	120	"	123	86	73.5
	:45	140	"	122		
	11:05	160	"	121.5		
	:25	180	"	120.2	86.5	73
	:45	200	"	119.5		
	PM 12:05	220	"	118.5		
	:25	240	"	118	86.5	73
	:45	260	"	116.5		
	1:05	280	"	115		
	:25	300	"	114.5	86	73

DATE	TIME	MIN.	AMP.	VOLTS 398	TEMP 398	TEMP stable	
3-31-09	1.45	320	30	1.095			
	2.05	340	"	1.055			
	.15	350	"	1.015			
	.19	354	"	1.00			— 177
	.25	360	"	.952	90.5	74	
				circuit off — minutes			
	.37	370	"	.832			
	.47	380	"	.50			— 190
				Charge 120			
3/31/09	PM 3.20	0	30	1.472	91.5	747	
	.22	2	"	1.517			
	.25	5	"	1.535			
	.30	10	"	1.557			
	.40	20	"	1.597			
	.50	30	"	1.63			
	4.00	40	"	1.645			
	.20	60	"	1.662	91.2	75.5	
	41	81	"	1.66			
	5.00	100	"	1.655			
	.20	120	"	1.655	90	76	
	.40	140	"	1.657			
	6.00	160	"	1.657			
	.20	180	"	1.661	88.7	76	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Dell	
3/31/09	PM 6.40	200	30	1.66			
	7.00	220	"	1.67			
	20	240	"	1.675	88.5	76	
	40	260	"	1.682			
	8.00	280	"	1.692			
	.20	300	"	1.7	88.5	76	
	.40	320	"	1.717			
	9.00	340	"	1.732			
	20	360	"	1.752	88.5	76.5	
	.40	380	"	1.772			
	10.00	400	"	1.79			
	20	420	"	1.815	89 (89.5) #	76.5	
				Discharge 120			
4/1/09	PM 10.23	—	start	1.58			
	.25	0	30	1.477			
	.27	2	"	1.402			
	.30	5	"	1.37			
	.35	10	"	1.35			
	.45	20	"	1.335			
	.55	30	"	1.312			
	11.05	40	"	1.30			
	.25	60	"	1.27.7	90.5	77	
	.45 AM	80	"	1.25.4			
4/1	12.05	100	"	1.24.2			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 395	395	1045
4/1/29	AM 12.25	120	30	123.2	92	77.5	
	.45	140	"	122.4			
	1.05	160	"	121.7			
	.25	180	"	121	92.5	78	
	.45	200	"	120.2			
	2.05	220	"	119.5			
	.25	240	"	118.4	94	77.2	
	.45	260	"	117.5			
	3.05	280	"	115.9			
	.25	300	"	113.9	94	76.7	
	.45	320	"	111			
	.55	330	"	109.5			
	4.05	340	"	107			
				current off one (1) minute			
	4.16	350	30	104.1			
	.26	355	"	102			
	.36	355	"	100	94.7	76	79
4/2				charge		121	
	AM 4.25	0	30	145	95	76	
	.37	2	"	147.1			
	.45	5	"	154.0			
	.55	10	"	157.0			
	5.12	20	"	159.9			
	5.25	30	"	160			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 395	395	1045
4/1/29	AM 5.15	40	30	162.4			
	.35	60	"	162.5	93	75	
	.55	80	"	164			
	6.15	100	"	166			
	.35	120	"	166	93.7	79.5	
	.55	140	"	165.9			
	7.15	160	"	166			
	.35	180	"	166.4	97.5	74.15	
	.55	200	"	167			
	8.15	220	"	168			
	.35	240	"	169	97.2	73.7	
	.55	260	"	170			
	9.15	280	"	170.7			
	.35	300	"	172.5	97.5	74	
	.55	320	"	174			
	10.15	340	"	176			
	.35	360	"	178	99	74	
	.55	380	"	179.5			
	11.15	400	"	182			
	.35	420	"	183	90	74	
					90.2		
				discharge		12	
4/2	PM 1.32	0	30	159.5			
	40	8	30	152			
				151.5			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Solar	
	AM						
7-1-09	1.45	5	30	1.385			
	50	10	"	1.365			
	PM 12.00	20	"	1.345			
	10	30	"	1.332			
	20	40	"	1.312			
	40	60	"	1.292	91.5	74	
	1.00	80	"	1.265			
	20	100	"	1.25			
	40	120	"	1.235			
	2.00	140	"	1.227	92	76.5	
	20	160	"	1.217			
	40	180	"	1.21	92.5	77	
	3.00	200	"	1.20			
	20	220	"	1.195			
	40	240	"	1.185	93	77.5	
	4.00	260	"	1.175			
	20	280	"	1.165			
	40	300	"	1.145			
	5.00	320	"	1.115	95.5	77.5	
	20	340	"	1.085			
	30	350	"	1.067			
	Current off 2 minutes						
	42	360	"	1.042	97	77.5	
	47	365	"	1.022			
	52	370	"	1.005			1.195

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solar	
	PM		Charge	122			
4/1/09	6.00	0	30	1.422	97.5	78.5	
	02	2	"	1.462			
	05	5	"	1.492			
	10	10	"	1.517			
	20	20	"	1.562			
	30	30	"	1.592			
	40	40	"	1.62			
	7.00	60	"	1.642	97	79	
	20	80	"	1.64			
	40	100	"	1.64			
	8.00	120	"	1.64	96.2	79	
	20	140	"	1.64			
	40	160	"	1.642			
	9.00	180	"	1.645	95.2	79	
	20	200	"	1.65			
	40	220	"	1.66			
	10.00	240	"	1.667	94	79	
	20	260	"	1.675			
	40	280	"	1.685			
	11.00	300	"	170	93	81	
	20	320	"	1.717			
	40	340	"	173			
4/2	AM 12.00	360	"	175	93	81.5	
	20	380	"	1.78			

DATE	TIME	MIN.	AMB	VOLTS	TEMPS 39F	39F	106F
4/2/69	12.40 AM	400	30	150			
	1.00	430	"	172	94 (95)	80.5	
				Discharge			122
4/2	1.03 AM	0	30	158			
	.05	0	30	148			
	.07	2	"	141			
	.10	5	"	137.5			
	.15	10	"	136.3			
	.25	20	"	133.8			
	.35	30	"	132.2			
	.45	40	"	130.4			
	2.05	60	"	128.1	94	80	
	.25	80	"	126.3			
	.45	100	"	124.8			
	3.05	120	"	123.6	95.7	80	
	.25	140	"	122.6			
	.45	160	"	121.5			
	4.05	180	"	121.2	96.2	80	
	.25	200	"	120.5			
	.45	220	"	119.8			
	5.05	240	"	118.5	96.5	79.5	
	.25	260	"	117.6			
	.45	280	"	116.9			
	6.05	300	"	114.2	97.7	79.7	

DATE	TIME	MIN	AMB	VOLTS	TEMPS 39F	39F	106F
4/2/69	6.25 AM	320	30	111			
	.45	340	"	108			
	.55	350	"	105.6			
	7.00	365	"	104.4			
				current off, rise (1) min			
	.11	366	30	103.9	97.7	76.5	
	.16	371	"	102			
	.26	371	"	100	99	76.2	-187.2
4/2				Charge			122
	7.40 AM	0	30	142.5	99	78	
	.42	2	"	142.3			
	.45	5	"	143.4			
	.50	10	"	152.4			
	8.00	20	"	157			
	.10	30	"	160.9			
	.20	40	"	162.2			
	.40	60	"	165.7	94.5	77	
	9.00	80	"	165.7			
	.20	100	"	165.7			
	.40	120	"	165.7	94	76.2	
	10.00	140	"	165.7			
	.20	160	"	165.7			
	.40	180	"	165.7	88.5	76	
	11.00	200	"	165.5			
	.20	220	"	165.5			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	404	
4-2-09	AM 11.45	240	20	1.189	87.	75	
	PM 12.00	260	"	1.205			
	.20	280	"	1.71			
	.40	300	"	1.75	87.	75.2	
	1.00	320	"	1.74			
	.20	340	"	1.75			
	.40	360	"	1.775	88.5	76	
	2.00	380	"	1.81			
	.20	400	"	1.83			
	.40	420	"	1.832	89.5	75.	
					(90)		
				Coulcharge = 123			
	PM. 2.42	—	off	1.82			
4-2-09	.45	0	20	1.445			
	.47	2	"	1.417			
	.50	5	"	1.382			
	.55	10	"	1.357			
	3.05	20	"	1.337			
	.15	30	"	1.322			
	.25	40	"	1.302			
	.45	60	"	1.28	.90	74	
	4.05	80	"	1.24			
	.25	100	"	1.242			
	.45	120	"	1.232	.90	73.7	
	5.05	140	"	1.22			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	404
4-2-09	PM 5.25	160	30	1.212		
	.45	180	"	1.202	91.	74
	6.05	200	"	1.197		
	.25	220	"	1.192		
	.45	240	"	1.185	92.2	75
	7.05	260	"	1.172		
	.25	280	"	1.16		
	.45	300	"	1.142	94.	75.5
	8.05	320	"	1.117		
	.25	340	"	1.087		
	.35	350	"	1.065		
	Current off 1 minute					
	.46	360	"	1.04	96.7	75.5
	.51	365	"	1.022		
	.56	370	"	1.00		-185
				Charge = 124		
4-2-09	PM 9.15	0	30	1.417	97.2	75.7
	.17	2	"	1.472		
	.20	5	"	1.49		
	.25	10	"	1.52		
	.35	20	"	1.57		
	.45	30	"	1.605		
	.55	40	"	1.622		

DATE	TIME	MIN	AMP	VOLTS	TEMP 39F	TEMP 39F	
	PM			39F		Idle	
4/2/09	10.15	60	30	1.65	94	75.2	
	.35	80	"	1.645			
	.55	100	"	1.64			
	11.15	120	"	1.65	91	74.7	
	.35	140	"	1.655			
	.55	160	"	1.659			
4/3	AM 12.15	180	"	1.61.8	91	75	
	.35	200	"	1.66.3			
	.55	220	"	1.67.5			
	1.15	240	"	1.68.1	91	76	
	.35	260	"	1.69.4			
	.55	280	"	1.70.1			
	2.15	300	"	1.71.7	90.5	76.5	
	.35	320	"	1.72.7			
	.55	340	"	1.74.1			
	3.15	360	"	1.76.1	92	77	
	.35	380	"	1.78.6			
	.55	400	"	1.81.8			
	4.15	420	"	1.83	94.2	77.5	
					(92.6)		
				Discharge	1.24		
4/3	AM 4.18	—	off	1.581			
	.20	2	30	1.485			
	.22	2	"	1.416			
	.25	5	"	1.338			

DATE	TIME	MIN	AMP	VOLTS 39F	TEMPS 39F	TEMPS 106F	
4/3/09	AM 4.30	10	30	136.1			
	.40	20	"	133.7			
	.50	30	"	131.9			
	5.00	40	"	130.4			
	.20	60	"	128.1	95	77	
	.40	80	"	126.2			
	6.00	100	"	124.8			
	.20	120	"	123.7	94.2	77.7	
	.40	140	"	122.5			
	7.00	160	"	121.9			
	.20	180	"	120.9	94	77.7	
	.40	200	"	120.1			
	8.00	220	"	1.192			
	.20	240	"	1.182	94.2	77.2	
	.40	260	"	1.172			
	9.00	280	"	1.16			
	.20	300	"	1.142	95	77.5	
	.40	320	"	1.117			
	10.00	340	"	1.085			
	.20	350	"	1.067			
	.15	355	"	1.055			
				Current off 1 minute			
	.31	360	"	1.045	96.5	76.5	
	.32	365	"	1.03			
	.33	370	"	1.005			
	.34	375	"	1.00	96.7	76.5	185.5

DATE	TIME	MIN	AMP	VOLTS 39V	TEMPS 39V	TEMPS IDLE
4/5/09	Stood thirty eight + half (38½) hours					
				Charge		125
	AM 1.00	0	30	152	77	76.7
	.02	2	"	157.8		
	.05	5	"	160.6		
	.10	10	"	163.4		
	.20	20	"	166.7		
	.30	30	"	168.3		
	.40	40	"	169		
	2.00	60	"	168.6	82	76.7
	.20	80	"	167.9		
	.40	100	"	167.6		
	3.00	120	"	167.5	79.5	76.5
	.20	140	"	167.7		
	.40	160	"	167.8		
	4.00	180	"	168	80	76.5
	.20	200	"	168.4		
	.40	220	"	169.2		
	5.00	240	"	169.6	77.2	76.2
	.20	260	"	170.2		
	.40	280	"	171.9		
	6.00	300	"	172.2	83.2	76.2
	.20	320	"	173.2		
	.40	340	"	174.9		

DATE	TIME	MIN	AMP	VOLTS 39V	TEMPS 39V	TEMPS IDLE
4/5/09	AM 7.00	360	30	176.1	90	76.5
	.20	380	"	179.9		
	.40	400	"	183.2		
	8.00	420	"	183.2	89	74.7
					94.4	
				Discharge		125
4/5	8.03	—	4/5	156.8		
	.05	0	30	149		
	.07	2	"	142.4		
	.10	5	"	138.3		
	.15	10	"	136.2		
	.25	20	"	133.9		
	.35	30	"	132.2		
	.45	40	"	131		
	9.05	60	"	129.9	91.5	75
	.25	80	"	129.2		
	.45	100	"	128.2		
	10.05	120	"	127.8	91.2	75
	.25	140	"	127.2		
	.45	160	"	127		
	11.05	180	"	126.2	91	75
	.25	200	"	126.0		
	.45	220	"	125		
	PM 12.05	240	"	125	91	75
	.25	260	"	124.8		
	.45	280	"	124.5		

DATE	TIME	MIN.	AMP	VOLTS	TEMP. 398	TEMP. 398	Clock
	PM						
4-5-09	12.55	280	20	1162			
	1.05	300	"	1.142	93.7	74.5	
	25	320	"	1.122			
	45	340	"	1.097			
	55	350	"	1.065			
	Current off 1 minute						
	2.06	360	"	1.04	96.2	75	
	16	362	"	1.00			194.2
	Stood eleven (11) hours off						
4/6	AM	Charge		=	126		
	1.00	0	30	149.7	79.5	77.5	
	02	2	"	157.9			
	05	5	"	158			
	10	10	"	160.9			
	20	20	"	165			
	30	30	"	167			
	40	40	"	167			
	2.00	60	"	167.4	84	78	
	20	80	"	167.9			
	40	100	"	167.5			
	3.00	120	"	167.3	88	77.5	
	20	140	"	167.4			
	40	160	"	167.4			
	4.00	180	"	167.4	88	78	

DATE	TIME	MIN.	AMP	VOLTS	TEMP. 398	TEMP. 398	IDLE
4/6/09	4.20	200	30	167.9			
	40	220	"	167.1			
	5.00	240	"	169	89	78	
	20	260	"	170.2			
	40	280	"	171.2			
	6.00	300	"	172.4	89	78	
	20	320	"	173.9			
	40	340	"	175			
	7.00	360	"	177	90	78	
	20	380	"	179.7			
	40	400	"	182.1			
	8.00	420	"	183	91	77.5	
					Run		
	Discharge = 126						
4/6	AM 8.03	—	4/6	158.3			
	05	0	30	149			
	07	2	"	144.6			
	10	5	"	138.5			
	15	10	"	136.4			
	25	20	"	134			
	35	30	"	132.2			
	45	40	"	131			
	9.05	60	"	129	92	78	
	25	80	"	128.5			
	45	100	"	128.1			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Solle	
4-6-09	PM 12.05	120	20	124	91.5	78	
	.25	140	"	122			
	.45	160	"	122			
	11.05	180	"	121.5	93	78	
	.25	200	"	122.5			
	.45	220	"	120			
	PM 12.05	240	"	118	96	78.5	
	.25	260	"	117			
	.45	280	"	116			
	1.05	300	"	114	94.7	79	
	.25	320	"	112			
	.45	340	"	108			
	.55	350	"	109			
				current off			
	2.06	360	"	102	97	79	
	.13	367	"	100			= 1825
	Stood eleven (11) hours off						
4/7	AM 12.00	0	30	charge 150	84	81.7	
	.02	2	"	154.2			
	.05	5	"	157			
	.10	10	"	161.7			

DATE	TIME	MIN.	AMPS	VOLTS 398	TEMP 398	TEMP Solle	
4/7/09	AM 1.20	20	30	164			
	.30	30	"	165.9			
	.40	40	"	167			
	2.00	60	"	167.9	88	82	
	.20	80	"	167.1			
	.40	100	"	166.4			
	3.00	120	"	166.2	90	81.5	
	.20	140	"	165.5			
	.40	160	"	166.7			
	4.00	180	"	167	90.7	81	
	.20	200	"	167.5			
	.40	220	"	168			
	5.00	240	"	168.7	91	80.5	
	.20	260	"	169.4			
	.40	280	"	170			
	6.00	300	"	171.2	91.5	80	
	.20	320	"	172.2			
	.40	340	"	173.4			
	7.00	360	"	174.5			
	.20	380	"	175	93.5	80	
	.40	400	"	182.1			
	8.00	420	"	181.8	94.5	80.2	
					(90.4)		
				Discharge			127
4/7	AM 8.05	=	4hr	158.1			

DATE	TIME	MIN	AMPS	VOLTS	TEMP 378	398	IDLE
4/7/99	8:05	0	30	148.5			
	07	2	"	149.9			
	10	5	"	151.4			
	15	10	"	152.3			
	25	20	"	152.2			
	35	30	"	152.5			
	45	40	"	152.2			
	9:05	60	"	152.7	96	80	
	25	80	"	152.7			
	45	100	"	152.2			
	10:05	120	"	152.4	95	79.5	
	25	140	"	152.3			
	45	160	"	152.2			
	11:05	180	"	152.3	94.5	79	
	25	200	"	152.2			
	45	220	"	152.7			
	12:05	240	"	152.2	94.2	79.7	
	25	260	"	152.2			
	45	280	"	152.7			
	1:05	300	"	152.7	95.2	78.2	
	25	320	"	152.5			
	45	340	"	152.5			
	55	350	"	152.7			
				quick off 1 minute			
	2:05	360	"	152			
	10	365	"	150.5	97	78	192.2

DATE	TIME	min.	AMP	VOLTS 398	TEMP 398	cable
				Stood eleven (11) hours		
4/8	AM			6 hour - 12V		
	1:00	0	30	151	76.2	74.5
	02	2	"	151		
	05	5	"	151.9		
	10	10	"	152.9		
	20	20	"	152.4		
	30	30	"	152.4		
	40	40	"	152.4		
	2:00	60	"	152.7	80	74.2
	20	80	"	152.7		
	40	100	"	152.1		
	3:00	120	"	152	82.7	74.2
	20	140	"	152		
	40	160	"	152		
	4:00	180	"	152	84	74
	20	200	"	152.1		
	40	220	"	152.9		
	5:00	240	"	152.9	84	74
	20	260	"	171		
	40	280	"	172.2		
	6:00	300	"	173.6	83.5	72.5
	20	320	"	175		
	40	340	"	176.9		

DATE	TIME	MIN	AMP	VOLTS 39K	TEMPS 39K	1PLE	
4/1/09	7.00 AM	260	30	178.5	85.2	73	
	.30	280	"	181.9			
	.45	400	"	183.6			
	8.00	420	"	184	88 (92.4)	73	
				Discharge		12 r	
4/8	8.00 AM	—	1.00	1.589			
	.05	0	30	1.587			
	.07	2	"	1.614			
	.10	5	"	1.75			
	.15	10	"	1.343			
	.25	20	"	1.342			
	.35	30	"	1.325			
	.45	40	"	1.309			
	9.00	60	"	1.275	89	73	
	.25	80	"	1.246			
	.45	100	"	1.247			
	10.05	120	"	1.244	89	73	
	.25	140	"	1.22			
	.45	160	"	1.22			
	11.05	180	"	1.218	90	73	
	.25	200	"	1.205			
	.45	220	"	1.20			
	12.05 PM	240	"	1.192	91.5	73.5	
	.25	260	"	1.177			

DATE	TIME	MIN.	AMP	VOLTS 39K	TEMP 39K	1PLE	
4-8-09	12.45 PM	280	.30	1.162			
	1.05	300	"	1.143	92.5	74	
	.25	320	"	1.112			
	.45	340	"	1.065			
	55	350	"	1.05			
				Current off 1 minute			
	2.01	355	"	1.0735			
	.06	360	"	1.017	93.5	74.2	
	.09	363	"	1.00			— 181.5
				Stood eleven (11) hours WJ			
4/9				Charge = 129			
	1.00 AM	0	30	157	78	77	
	.02	2	"	157			
	.05	5	"	157.9			
	.10	10	"	160.8			
	.20	20	"	165.6			
	.30	30	"	167			
	.40	40	"	166.6			
	2.00	60	"	166.6	82.5	77	
	.20	80	"	166.6			
	.40	100	"	167.6			
	3.00	120	"	167.5	85.2	76.5	

DATE	TIME	MIN.	AMPS	VOLTS	TEMPS 398	TEMPS 398	TEMPS IDLE
4/9/08	AM 3:00	140	30	167.4			
	.45	150	"	167.5			
	4:00	160	"	167.5	86.7	76.7	
	.20	200	"	168			
	.40	220	"	167.4			
	5:00	240	"	168.5	85.5	76	
	.20	260	"	171			
	.40	280	"	172			
	6:00	300	"	173	85.5	74	
	.20	320	"	174			
	.40	340	"	175.7			
	7:00	360	"	177.2	87	74	
	.20	380	"	182			
	.40	400	"	183			
	8:00	420	"	183.7	(82) (84.9)	73.7	
				Discharge		129	
4/9	AM 8:03	—	40	158.7			
	.05	0	30	149			
	.07	2	"	145			
	.10	5	"	138			
	.15	11	"	136.2			
	.25	20	"	133.7			
	.35	30	"	132			
	.45	40	"	130.5			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP IDLE
4/9	AM 9:05	60	30	129.5	88.7	74.7
	.25	80	"	126.2		
	.45	100	"	124.7		
	10:05	120	"	123.7	88.5	73
	.25	140	"	123.5		
	.45	160	"	122		
	11:05	180	"	121	88.2	73
	.25	200	"	120.5		
	.45	220	"	119.7		
	PM 12:05	240	"	119.7	90	73
	.25	260	"	119.7		
	.45	280	"	119		
	1:05	300	"	119	91.5	73
	.25	320	"	119		
	.45	340	"	118.2		
	2:05	360	"	118.5		
				cut off 1 minute		
	2:06	360	"	101.3	91.5	73.5
	off	363½	"	100		-181.7

Stood above (W) drawn off

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	DEG C
4/10/09		Charge			120	
	AM 1.00	0	30	151	76	74.2
	.02	2	"	156.4		
	.05	5	"	159		
	.10	10	"	161.9		
	.15	20	"	165.8		
	.20	30	"	167.8		
	.40	40	"	169.9		
	2.00	60	"	170	79.7	73.5
	.20	80	"	169.1		
	.40	100	"	168.4		
	3.00	120	"	167.9	81.2	73
	.20	140	"	168		
	.40	160	"	168		
	4.00	180	"	169	82.7	73
	.20	200	"	169.5		
	.40	220	"	169.8		
	5.00	240	"	170	83.2	73
	.20	260	"	170.9		
	.40	280	"	172.2		
	6.00	300	"	174	83	72.2
	.20	320	"	175.4		
	.40	340	"	177		
	7.00	360	"	179.2	82.2	71.5
	.20	380	"	180.2		

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	DEG C
4/10/09	AM 7.40	400	30	114.2		
	8.00	420	"	125.5	83 (81.6)	70
				Discharge		120
4/10	AM 8.00	—	0/m	159.4		
	.05	0	30	150		
	.00	2	"	1.426		
	.10	5	"	138		
	.15	10	"	1.366		
	.25	20	"	1.327		
	.35	30	"	1.315		
	.45	40	"	1.30		
	9.05	60	"	1.282	83	70
	.25	80	"	1.255		
	.45	100	"	1.247		
	10.05	120	"	1.232	84.5	70
	.25	140	"	1.227		
	.45	160	"	1.22		
	11.05	180	"	1.212	86.7	70.2
	.25	200	"	1.202		
	.45	220	"	1.197		
	PM 12.05	240	"	1.187	89	71
	.25	260	"	1.177		
	.45	280	"	1.166		
	1.05	300	"	1.145	90.7	72.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Solu	
	PM						
4/10/09	1.25	320	30	1.12			
	45	340	"	1.087			
	2.00	355	"	1.05			
	Current off 1 minute						
	.04	360	"	1.037	94	73.5	
	.11	365	"	1.017			
	.14½	368½	"	1.00	945	735	184.2
Stood thirty five + half (35½) hours over Sunday							
4/12	AM	Charge		131			
	1.30	0	30	153	71	70.5	
	.32	2	"	158.1			
	.35	5	"	161.7			
	.40	10	"	164.2			
	.53	23	"	167.2			
	2.00	30	"	169			
	.10	40	"	170.2			
	.31	60	"	170	77	71.5	
	.50	80	"	169.7			
	3.10	100	"	168.9			
	.30	120	"	168.3	812	73	
	.50	140	"	167.4			
	4.10	160	"	167.4			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	120 C	
4/12/09	AM 4.30	175	30	167.4	83	73	
	.50	200	"	167.9			
	5.10	220	"	169.5			
	.30	240	"	170.	84.5	73.2	
	.50	260	"	171			
	6.10	280	"	172			
	.30	300	"	173	86	73.2	
	.50	320	"	174			
	7.10	340	"	175.7			
	.30	360	"	177	87	73	
	.50	380	"	179.5			
	8.10	400	"	182			
	.30	420	"	182.	877	735	
					(84.4)		
	Discharge 131						
4/12	AM 8.33	—	off	158.1			
	35	0	30	149			
	37	2	"	145			
	40	5	"	139			
	45	10	"	134.5			
	55	20	"	133.			
	9.05	30	"	132			
	15	40	"	130.2			
	35	60	"	128.	90	73	
	55	80	"	126			

DATE	TIME	MIN.	AMP.	VOLTS 398	TEMP 398	TEMP idle	
4-12-09	AM 10.15	100	30	1.245			
	.25	120	"	1.237	89	73	
	.35	140	"	1.237			
	11.15	160	"	1.232			
	.25	180	"	1.235	88	73	
	.35	200	"	1.245			
	PM 12.15	220	"	1.20			
	.35	240	"	1.192	90.5	73	
	.45	260	"	1.18			
	1.15	280	"	1.163			
	.25	300	"	1.14	93	73.5	
	.35	320	"	1.12			
	2.15	340	"	1.112			
	.25	360	"	1.56			
				Current off. 1 minute			
	.35	380	"	1.02	94.5	74	
	.40	364	"	1.00			1.8223

blood idle 7 hours

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP idle
			Charge +	1.32		
4/12/09	PM 10.00	0	20	1.50	78.5	74
	.02	2	"	1.552		
	.05	5	"	1.565		
	.10	10	"	1.597		
	.20	20	"	1.632		
	.30	30	"	1.66		
	.40	40	"	1.67		
	11.00	60	"	1.68	82.5	74.5
	.20	80	"	1.677		
	.40	100	"	1.66.4		
4/13	12.00	120	"	1.67.6	86	75.5
	.20	140	"	1.67.1		
	.40	160	"	1.672		
	1.00	180	"	1.68	86.7	75.5
	.20	200	"	1.684		
	.40	220	"	1.69.6		
	2.00	240	"	1.70.3	88	74
	.20	260	"	1.70.8		
	.40	280	"	1.73		
	3.00	300	"	1.73.8	86.5	73.2
	.20	320	"	1.74.5		
	.40	340	"	1.76.8		
	4.00	360	"	1.78.9	88.2	73.7
	.20	380	"	1.80.8		

DATE	TIME	MIN.	AMP.	VOLTS	TEMPS 39.5	39.5 100.5	
4/13/39	AM 4.40	400	30	183.2			
	5.00	420	"	183.7	90.5	74	
					85.5		
				"Discharge"			132
4/13	AM 5.03	7	on	154			
	.05	0	30	142			
	.07	2	"	141.7			
	.10	5	"	137.4			
	.15	10	"	133.6			
	.25	20	"	132.7			
	.35	30	"	131.4			
	.45	40	"	129.9			
	6.00	60	"	127.8	92	74.2	
	.25	80	"	126			
	.45	100	"	124.2			
	7.05	120	"	123	92.2	74.7	
	.25	140	"	122			
	.45	160	"	121			
	8.05	181	"	119.7	90	73.7	
	.25	200	"	120.5			
	.45	220	"	120			
	9.05	240	"	119.7	89.2	73	
	.25	260	"	119.5			
	.45	280	"	119			
	10.05	300	"	118	89.5	73	

DATE	TIME	MIN.	AMP	VOLTS 39.5	TEMP 39.5 100.5		
4-13-39	AM 10.25	320	30	111			
	.45	340	"	109.5			
	.55	350	"	105			
				cannot	off	minute.	
	11.05	360	"	102	89.5	73	
	.09 1/2	362 1/2	"	100			181.7
				Charge	= 173		
4-13-39	PM 11.25	0	30	1.433	89.5	73.	
	.35	2	"	147			
	.30	5	"	1.445			
	.35	10	"	1.53			
	.45	20	"	1.577			
	.55	30	"	1.602			
	PM 1.05	40	"	1.4			
	.25	60	"	1.643	90	73.7	
	.45	80	"	1.667			
	2.05	100	"	1.645			
	.25	120	"	1.645	88.2	73.	
	.45	140	"	1.665			
	3.05	160	"	1.667			
	.25	180	"	1.667	87.2	73	
	.45	200	"	1.667			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP other	
	PM						
4-13-09	3.05	220	30	1685			
	.25	240	"	1693	845	73	
	.45	260	"	1705			
	4.05	280	"	172			
	.25	300	"	174	842	73	
	.45	320	"	1.75			
	5.05	340	"	1.765			
	.25	360	"	1.779	857	72	
	.48	382	"	1.833			
	6.05	400	"	1.837			
	.25	420	"	1.842	89	72.5	
					875		
				Discharge #		133	
	PM						
4/13/09	6.28 —		Spun	1.685			
	30	0	30	1.492			
	32	2	"	1.417			
	35	5	"	1.38			
	40	10	"	1.36			
	50	20	"	1.332			
	7.00	30	"	1.319			
	10	40	"	1.297			
	30	60	"	1.277	89	73	
	50	80	"	1.265			
	8.10	100	"	1.26			
	30	120	"				

DATE	TIME	MIN.	AMPS	VOLTS 398	TEMP 398	TEMP other	
	PM						
4/13/09	8.50	140	30	1222			
	9.10	160	"	1215			
	30	180	"	1.207	912	735	
	50	200	"	1.20			
	10.10	220	"	1.192			
	30	240	"	1.185	915	735	
	50	260	"	1.172			
	11.10	280	"	116			
	30	300	"	113.9	93.7	74	
	50	320	"	111.9			
4/14	AM 12.10	340	"	1089			
	30	360	"	106.7			
	50	380	"	1036	95.5	74.2	
				current off on (?) min			
	1.34	365	"	102.5			
	41	370	"	100	95	74.2	-185
				charge —		134	
4/14	AM 1.20	0	30	145	93.2	74	
	27	7	"	145.1			
	35	5	"	150.4			
	30	10	"	151.1			
	45	20	"	158			
	50	30	"	162.2			

DATE	TIME	MIN	AMP	VOLTS 39F	TEMPS 39F	10LB
4/14/09	AM 2.20	60	30	166	93	78.2
	.40	80	"	166.1		
	3.00	100	"	166		
	.20	120	"	166	92	74.5
	.40	140	"	166.1		
	4.00	160	"	166.2		
	.20	180	"	167	90	74.5
	.40	200	"	167		
	5.00	220	"	167.4		
	.20	240	"	168.1	90	74.5
	.40	260	"	169		
	6.00	280	"	171.7		
	.20	300	"	172.7	90	75.2
	.40	320	"	173.7		
	7.00	340	"	174		
	.20	360	"	174.1	89.5	75
	.40	380	"	175		
	8.00	400	"	182		
	.20	420	"	183.2	91.2	75
					94	
				Discharge		134
4/14	AM 8.23	—	open	15.11		
	.25	0	33	149		
	.27	2	"	147.2		
	.30	5	"	134		

DATE	TIME	MIN	AMP	VOLTS 39F	TEMPS 39F	10LB
4/4/09	8.35	10	30	136		
	.45	20	"	134		
	.55	30	"	132.2		
	9.05	40	"	131		
	.25	60	"	128.5	91.5	76
	.45	80	"	126		
	10.05	100	"	125		
	.25	120	"	124	91.5	76
	.45	140	"	123		
	11.05	160	"	122		
	.25	180	"	121.2	92	76
	.45	200	"	120.5		
	PM 12.05	220	"	119.5		
	.25	240	"	118.5	92.5	76.5
	.45	260	"	117.2		
	1.05	280	"	116		
	.25	300	"	115	93.5	76.5
	.45	320	"	115		
	2.05	340	"	108.2		
	1.5	350	"	105		
				Current off 1 minute		
	.26	360	"	107.5		
	.31	365	"	100	96	77 — 182.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Jelle
			Charge #1	13.5		
4/14/09	PM 2.45	0	30	1.407	96	77
	.47	2	"	1.457		
	50	5	"	1.48		
	55	10	"	1.517		
	3:05	20	"	1.552		
	.15	30	"	1.592		
	.25	40	"	1.622		
	.45	60	"	1.65	95	77
	4.05	80	"	1.652		
	.25	100	"	1.65		
	.45	120	"	1.65	93	77
	5.05	140	"	1.65		
	.25	160	"	1.65		
	.45	180	"	1.655	917	77
	6.05	200	"	1.66		
	.25	220	"	1.665		
	.45	240	"	1.67	91	77
	7.05	260	"	1.682		
	.25	280	"	1.692		
	.45	300	"	1.71	915	78
	8.05	320	"	1.72		
	.25	340	"	1.735		
	.45	360	"	1.757	927	78

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Jelle
4/14/09	PM 9.05	380	30	1.78		
	.25	400	"	1.812		
	.45	420	"	1.825	95 (93.2)	78.5
			Discharge #135			
4/14/09	PM 9.48	—	ohm	1.57		
	.50	0	30	1.48		
	.52	2	"	1.40		
	.55	5	"	1.375		
	10.00	10	"	136		
	.10	20	"	134		
	.20	30	"	1.327		
	.30	40	"	1.302		
	.50	60	"	1.28	947	79.5
	11.10	80	"	126		
	.30	100	"	125		
	.50	120	"	123.4	95	80
4/	AM 12.10	140	"	123		
	.30	160	"	122		
	.50	180	"	121.4	95.5	80
	1.10	200	"	120.3		
	.30	220	"	119.4		
	.50	240	"	118.4	96	80
	2.10	260	"	117.7		
	.30	280	"	[illegible]		

DATE	TIME	MIN.	AMPS	VOLTS	TEMPS 39.8	39.8	104.6
4/15/39	AM 2.00	200	30	114.2	97	80	
	3.10	320	"	112			
	.30	340	"	108.2			
	.40	350	"	107.7			
	.50	360	"	105.2	95.2	79.2	
	current off one (1) minute						
	3.50	260	30	102			
	4.00	269	"	100	99	79.2	-1946.5
4/15	AM		Charge	"		126	
	4.20	0	30	141	95	79	
	.22	2	"	146.1			
	.25	5	"	149.5			
	.30	10	"	151.9			
	.40	20	"	156.1			
	.50	30	"	159.9			
	5.00	40	"	161.8			
	.20	60	"	164.4	96.5	79	
	.40	80	"	165			
	6.00	100	"	165			
	.20	120	"	165.2	93.7	78	
	.40	140	"	165.5			
	7.00	160	"	165.6			
	.20	180	"	165.6	92	78	
	.40	200	"	165.2			

DATE	TIME	MIN.	AMPS	VOLTS 39.8	TEMPS 39.8	104.6	
4/15/39	AM 8.00	220	30	167			
	.20	240	"	132	90.5	77.2	
	.40	260	"	169			
	9.00	280	"	135			
	.20	300	"	135	99.2	77	
	.40	320	"	132			
	10.00	340	"	135			
	.20	360	"	135	99.7	77	
	.40	380	"	135			
	11.00	400	"	133			
	.20	420	"	134	90	77	
					97.8		
			Discharge			# 126	
	AM						
4-15-39	11.23	-	Stop	149			
	25	0	30	149			
	27	2	"	145			
	30	5	"	138			
	35	10	"	134			
	45	20	"	133			
	55	30	"	132			
	12.05	40	"	129			
	25	60	"	128	91	75.5	
	45	80	"	126			
	1.05	100	"	126			
	25	120	"	125	92.5	76	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Delle	
4-15-09	PM 1.45	160	30	1.225			
	2.05	180	"	1.217			
	25	180	"	1.207	92.5	76.5	
	45	200	"	120			
	3.05	220	"	119			
	25	240	"	118	94.6	77.5	
	45	260	"	117			
	4.05	280	"	1.115			
	25	300	"	1.132	96.5	77.5	
	45	320	"	1.109			
	5.05	340	"	1.093			
	25	350	"	1.097			
				Current off 12 minutes			
	26	360	"	1.017	97.5	78	
	30	364	"	1.00			182
				Charge 137			
4/15/09	PM 6.10	0	30	1.425	96.5	79	
	12	2	"	1.467			
	15	5	"	1.492			
	20	10	"	1.517			
	30	20	"	1.572			
	40	30	"	1.592			
	50	40	"	1.602			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Delle	
4/15/09	PM 7.10	60	30	1.642	94.7	79	
	30	80	"	1.65			
	50	100	"	1.65			
	8.10	120	"	1.65	92	79	
	30	140	"	1.652			
	50	160	"	1.655			
	9.10	180	"	1.662	90	78.7	
	30	200	"	1.67			
	50	220	"	1.675			
	10.10	240	"	1.68	88	77.5	
	30	260	"	1.672			
	50	280	"	1.70			
	11.10	300	"	1.72	87	77	
	30	320	"	1.734			
	50	340	"	175			
4/16	AM 12.10	360	"	178	87.5	76.7	
	20	370	"	181.4			
	50	400	"	183.8			
	1.10	420	"	184.2	89.7	76.5	
					(90.7)		
				Discharge			137
4/16	AM 1.13	—	4	184.5			
	15	0	30	149			
	17	2	"	141.4			
	20	5	"	137.4			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS		
				39K	79K	104K	
4/10	1:25 AM	10	30	136.3			
	35	20	"	133.8			
	45	30	"	132.4			
	55	40	"	130.8			
	2:15	60	"	128.1	91	76	
	35	80	"	126.2			
	55	100	"	124.7			
	3:15	120	"	123.4	91	75.2	
	35	140	"	122.4			
	55	160	"	121.8			
	4:15	180	"	121	91	75	
	35	200	"	120			
	55	220	"	119			
	5:15	240	"	118	92	75	
	35	260	"	117			
	55	280	"	115			
	6:15	300	"	113.7	93.5	74.7	
	35	320	"	111			
	55	340	"	107.7			
	7:05	350	"	105			
	current off one (1) minute						
	16	360	"	102.3	94.5	74.5	
	21	365	"	100			-182.5

DATE	TIME	MIN	AMPS	VOLTS	TEMPS		
				39K	79K	104K	
4/10/27	AM			Change			138
	7:35	0	30	141	93	74.5	
	37	2	"	145.5			
	40	5	"	147.1			
	45	10	"	151.7			
	55	20	"	156			
	8:05	30	"	163			
	15	40	"	162.1			
	35	60	"	162	83	74	
	55	80	"	162.5			
	9:15	100	"	162.5			
	35	120	"	162.2	91	74	
	55	140	"	162.5			
	10:15	160	"	166			
	35	180	"	166.2	89.7	74	
	55	200	"	166.7			
	11:15	220	"	167.5			
	35	240	"	168	88.5	74.5	
	55	260	"	168.7			
	PM 12:15	280	"	171			
	35	300	"	171.5	89	75	
	55	320	"	173			
	1:15	340	"	174.5			
	35	360	"	177.7	90.5	76.5	
	55	380	"	181			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Solex	
4/16/09	PM 2.15	400	30	1.232			
	.35	420	"	.193	.922 (924)	.762	
				Discharge		= .138	
4-16-09	PM 2.25	—	Grey	.158			
	.40	0	30	.149			
	.42	2	"	.142			
	.45	5	"	1.182			
	.50	10	"	.126			
	3.00	20	"	.124			
	.10	30	"	1.32			
	.20	40	"	1.209			
	.40	60	"	1.222	.92	.765	
	4.00	80	"	.126			
	.20	100	"	1.245			
	.40	120	"	1.237	.91	.75	
	5.00	140	"	1.222			
	.20	160	"	1.212			
	.40	180	"	1.207	.907	.745	
	6.00	200	"	1.205			
	.20	220	"	1.195			
	.40	240	"	1.185	.912	.74	
	7.00	260	"	1.167			
	.20	280	"	1.16			
	.40	300	"	1.14	.922	.735	

DATE	TIME	MIN.	AMPS	VOLTS 398	TEMP 398	TEMP Solex	
4/16/09	PM 8.00	320	.30	1.117			
	.20	340	"	1.09			
	.30	350	"	1.067			
	.40	360	"	1.037	.932	.73.5	
				Current off 1 minute			
	.51	370	"	1.007			
	.53	372	"	1.00			-.136
				Charge #139			
4/16/09	PM 9.05	0	.30	1.141	.93	.735	
	.07	2	"	1.462			
	.10	5	"	1.50			
	.15	10	"	1.522			
	.25	20	"	1.57			
	.35	30	"	1.61			
	.45	40	"	1.637			
	10.05	60	"	1.647	.917	.735	
	.25	80	"	1.66			
	.45	100	"	1.662			
	11.05	120	"	1.67	.905	.73.5	
	.25	140	"	1.67			
	.45	160	"	1.67			
4/17	AM 12.05	180	"	1.67	.89	.73.5	
	.25	200	"	1.67.7			
	.45	220	"	1.683			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle
4/17/97	1.05	240	30	169.8	90	78
	.25	260	"	170.1		
	.45	280	"	171.7		
	2.05	300	"	172.2	90.5	74.5
	.25	320	"	173.7		
	.45	340	"	175		
	3.05	360	"	175	91	75
	.25	380	"	179.8		
	.45	400	"	183.7		
	4.05	420	"	185	92	75
					(90.4)	
				Discharge	139	
4/17	AM 4.04	—	0	157		
	.10	0	30	147		
	.12	2	"	140		
	.15	5	"	137		
	.20	10	"	134.8		
	.30	20	"	132		
	.40	30	"	130.8		
	.50	40	"	129.6		
	5.00	60	"	128.3	92	74
	.30	80	"	127.1		
	.50	100	"	125		
	6.10	120	"	122	92.7	74
	.30	140	"	121.5		

DATE	TIME	MIN	AMP	VOLTS 38K	TEMPS 38K	TEMPS IDLE
4/17/97	AM 6.50	160	30	120.2		
	7.00	170	"	119.6	90	73
	.30	200	"	119.1		
	.50	220	"	118.1		
	8.10	240	"	117.2	88	72
	.30	260	"	116.7		
	.50	280	"	116.4		
	9.10	300	"	116.2	90.2	70.5
	.30	320	"	116.9		
	.50	340	"	116		
	10.00	350	"	116.4		
	.10	360	"	116.2		
	.11	361	"	100	92.5	71
	.20	370	"	96.2		
	.31	381	"	90.5		
	.40	390	"	86		
	.50	400	"	78.2		
	11.00	410	"	65		
	00½	416½	"	50	96.7	71

Stood their never (37) hours off over Sunday

DATE	TIME	MIN	AMPS	VOLTS	TEMP 398	TEMP 1208
4/3/09			Charge	"	1.40	
	AM 12.05	0	30		Discharge	
	.35	30	"		86.7	83.2
	2.35	150	"		90	80.5
	4.35	270	"		90	78
	6.35	390	"		91.2	77.2
	8.35	510	"		92	75
	10.35	630	"		91	74.2
	PM 12.35	750	"		95.5	75.2
	2.35	870	"		99	81
	3.05	900	"	1.94		
					92	
			Discharge		1.40	
4-19-09	PM 3.05	-	0	1.59		
	.10	0	30	1.505		
	.12	2	"	1.435		
	.15	5	"	1.387		
	.20	10	"	1.37		
	.30	20	"	1.347		
	.40	30	"	1.33		
	.50	40	"	1.315		
	4.10	60	"	1.307	98.5	81.5
	.30	80	"	1.267		
	5.00	100	"	1.35		
	5.00	100	"	1.337	94.5	81.5

DATE	TIME	MIN.	AMP.	VOLTS	TEMP 398	TEMP 1208
4-19-09	PM 5.30	140	30	1.223		
	.50	160	"	1.217		
	6.10	180	"	1.21	97.7	81.5
	.30	200	"	1.205		
	.50	220	"	1.197		
	7.10	240	"	1.19	98	81.7
	.30	260	"	1.18		
	.50	280	"	1.17		
	8.10	300	"	1.162	97.7	81
	.30	320	"	1.157		
	.50	340	"	1.147		
	9.10	360	"	1.132	96.7	79
	.30	380	"	1.11		
	.50	400	"	1.077		
	10.10	420	"	1.04	98.7	78
	.30	430	"	1.015		
	.34	434	"	1.00		-217
	.30	440	"	.972		
	.40	450	"	.932		
	.50	460	"	.867		
	11.00	470	"	.722		
	1.10	470	"	.50	104	79 -240

DATE	TIME	MIN	AMPS	VOLTS 39V	TEMPS 39V	12V	
4/19/09				Charge		.141	
	P.M. 11:15	0	.30		on charge		
	.45	30	"		105	80	
4/20	A.M. 1:45	150	"		98	79.5	
	3:45	270	"		94.2	75.5	
	5:45	390	"		91.5	76.7	
	7:45	510	"		92.5	75	
	9:45	630	"		95	74.5	
	11:45	750	"		97	75	
	P.M. 1:45	870	"		96.5	74.7	
	2:15	900	"	1.86	(94.2)		-15 hrs @ .30
				Discharge		.141	
4-20-09	P.M. 7:18	—	.0[illegible]		1.59		
	.20	0	.30		1.50		
	.22	2	"		1.41		
	.25	5	"		1.32		
	.30	10	"		1.265		
	.40	20	"		1.25		
	.50	30	"		1.233		
	8:00	40	"		1.32		
	.20	60	"		1.275	94.7	74.5
	.40	80	"		1.27		
	9:00	100	"		1.267		
	.20	120	"		1.252	93	74.5

DATE	TIME	MIN	AMP	VOLTS 39V	TEMPS 39V	12V	
4-20-09	P.M. 9:40	140	.30		1.22		
	10:00	160	"		1.21		
	.20	180	"		1.205	91.5	74
	.40	200	"		1.20		
	11:00	220	"		1.192		
	.20	240	"		1.185	91.5	74
	.40	260	"		1.177		
	12:00	280	"		1.17		
	.20	300	"		1.162	91.5	74
	.40	320	"		1.152		
	1:00	340	"		1.14		
	.20	360	"		1.122	92.7	77
	.40	380	"		1.105		
	2:00	400	"		1.08		
	.20	420	"		1.042		
	.40	440	"		1.012		
	3:00	460	"		1.00		-222
	.10	470	"		.80		
	.20	480	"		.662	101.5	75
	.25	485	"		.50		-247.5

Total six + half (6½) hours
correct on acres with
Cadmium test 4.8

DATE	TIME	MIN.	AMPS	VOLTS 39V	TEMP 39V	TEMP 10LE
4/21/09			Charge		# 142	
	AM 4.55	0	30		96.2	75
	5.55	1	"		91	74.5
	6.55	2	"		93	74.5
	7.55	3	"		93	73.7
	8.55	4	"		94	72.2
	9.55	5	"		94.5	73
	10.55	6	"		94.5	73.5
	11.55	7	"	134	95.5	73.5
			Discharge		# 142	
4-21-09	PM 12.00	0	40	143		
	.02	2	"	136		
	.05	5	"	133		
	.10	10	"	131		
	.20	20	"	128.5		
	.30	30	"	127		
	.40	40	"	125.2		
	1.00	60	"	122	99	73.5
	.20	80	"	120.5		
	.40	100	"	119		
	2.00	120	"	118		
	.20	140	"	117.2		
	.40	160	"	116.7		
	3.00	180	"	114.5	104.5	73.5

DATE	TIME	MIN.	AMPS	VOLTS 39V	TEMP 39V	TEMP 10LE	
4/21/09	PM 3.20	200	40	1.13			
	.40	220	"	1.12			
	.50	230	"	1.077			
	4.00	240	"	1.06	104	73.5	
	.10	250	"	1.01			
	.12	252	"	1.00			-168
	.20	260	"	.93			
	.30	270	"	.76			
	.36	276	"	.50	106.7	73.5	-184.5
			Charge		# 143		
4-21-09	PM 4.55	0	30		109.5	72.5	
	5.55	1	"		107.5	72.5	
	6.55	2	"		103.5	72.5	
	7.55	3	"		101.2	72.7	
	8.55	4	"		99	73	
	9.55	5	"		98.5	73.5	
	10.55	6	"		99.7	74	
	11.55	7	"	135.7	100.5	75	
			Discharge		# 143		
4/22	AM 12.00	0	40	141.7			
	.02	2	"	135.7			
	.05	5	"	133.7			

DATE	TIME	MIN.	AMP	Volts 398	TEMP 398	TEMP Adde	
4/22/09	AM 12.10	10	40	131.7			
	.20	20	"	129.5			
	.30	30	"	127			
	.40	40	"	126			
	1.00	60	"	123.5	104.7	75	
	.20	80	"	121.7			
	.40	100	"	120			
	2.00	120	"	119.5	107	75.7	
	.20	140	"	118			
	.40	160	"	117			
	3.00	180	"	115.7	109	76	
	.20	200	"	114			
	.40	220	"	111.7			
	.50	230	"	109.7			
	4.00	240	"	107.7	110.5	76	
	.10	250	"	106			
	.20	260	"	100			1737.3
	.30	270	"	95			
	.40	280	"	87.5			
	.45	285	"	70			
	.49	289	"	58	113	76	1921.7
4/23			Discharge			144	
	AM 4.55	0	30		117.5	75.5	
	5.55	1	"		112	75	
	6.55	2	"		106	74.5	
	7.55	3	"		103	74	
	8.55	4	"		99.5	73	

DATE	TIME	MIN	AMPS	Volts 398	TEMP 398	TEMP Adde	
	AM						
4/22/09	9.55	5			98.2	73	
	10.55	6			96.2	72.7	
	11.55	7		1.78	96	72.5	
			Discharge			144	
4/22	PM 12.00	0	40	1.432			
	05	2	"	1.372			
	05	5	"	1.32			
	10	10	"	1.317			
	20	20	"	1.292			
	30	30	"	1.275			
	40	40	"	1.257			
	1.00	60	"	1.23	98.5	72.7	
	30	90	"	1207			
	40	100	"	1197			
	2.00	120	"	1.19	100.5	73	
	20	140	"	117			
	40	160	"	116			
	3.00	180	"	114	100.5	73	
	20	200	"	109			
	40	220	"	105			
	4.00	240	"	1.055	100.5	73	1904
	10	250	"	100			
	20	260	"	.96			
	30	270	"	.84			
	40	280	"	.67			
	50	290	"	.50			
	4/23 5.24		"	.50	109	73	1904

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP 10-WE
			Charge 145			
4-22-09	PM 4.55	0	20	125	73	
	5.55	1	"	109.5	74.5	
	6.55	2	"	105	75	
	7.55	3	"	104.2	75.5	
	8.55	4	"	103	76	
	9.55	5	"	101.9	75.7	
	10.55	6	"	101.5	75	
	11.55	7	"	176.2	101.5	75
			Discharge 14			
4/23	AM 12.00	0	40	141		
	.02	2	"	136.1		
	.05	5	"	127.7		
	.10	10	"	132		
	.20	20	"	129.7		
	.30	30	"	127.7		
	.40	40	"	126		
	1.00	60	"	123	104.5	74
	.20	80	"	121.5		
	.40	100	"	120		
	2.00	120	"	119	105.5	73.7
	.20	140	"	117.7		
	.40	160	"	116.5		
	3.00	180	"	115	105.7	73

DATE	TIME	MIN	AMP	VOLT. 398	TEMP 398	TEMP 10-WE
4/23/09	AM 3.20	200	40	113		
	.40	220	"	110		
	.50	230	"	109.5		
	4.00	240	"	110	112	76
	.10	250	"	109		
	.20	260	"	108		-122.3
	.30	270	"	94		
	.40	280	"	822		
	.50	290	"	537		
	.51	291	"	50	116	76	-124
4/23				Charge 14		
	AM 4.55	0	30		118	76.2
	5.55	1	"		127.7	76
	6.55	2	"		109.2	76
	7.55	3	"		106.5	75.5
	8.55	4	"		104.5	75
	9.55	5	"		102	74.2
	10.55	6	"		101	74
	11.55	7	"	176	105	73.5
				Discharge 146		
4-22-09	PM 12.00	0	40	144		
	.02	2	"			
	.05	5	"	135		
	.10	10	"	132		
	.20	20	"	129.5		
	.30	30	"	129.5		

DATE	Time	Min.	Amp	Volts 398	Temp 398	Temp Cells	
	PM						
4-23-09	1:40	40	40	1.157			
	1:00	60	"	1.32			
	20	80	"	1.312	102.5	74.5	
	40	100	"	1.15			
	2:00	120	"	1.152	100	74	
	20	140	"	1.175			
	40	160	"	1.16			
	3:00	180	"	1.142	101.2	74	
	20	200	"	1.122			
	40	220	"	1.109			
	4:00	240	"	1.045	100	73.2	
	10	250	"	1.022			
	15/2:55		"	1.00			-1.023
	20	260	"	.96			
	30	270	"	.835			
	40	280	"	.717			
	46	286	"	1.50	114	75	-1.007
			Charge #	147			
4/23/09	4:55	0	30		1.15	75	
	5:55	1	"		1.125	75	
	6:55	2	"		1.075	74.5	
	7:55	3	"		1.045	74.5	
	8:55	4	"		1.02	74.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Temp Cells	
	PM						
4/23/09	9:55	5	30		101.5	74.5	
	10:55	6	"		101	74.2	
	11:55	7	"	1.165	102.5	74.5	
				Discharge			147
4/24	AM 12:00	0	40	142			
	:02	2	"	136			
	:05	5	"	133.7			
	:10	10	"	132			
	:20	20	"	129.5			
	:30	30	"	127.5			
	:40	40	"	126			
	1:00	60	"	123	104.5	74.5	
	:20	80	"	121			
	:40	100	"	120			
	2:00	120	"	119	106	74.7	
	:20	140	"	117.7			
	:40	160	"	116			
	3:00	180	"	114.5	108.2	75	
	:20	200	"	112			
	:40	220	"	109			
	:50	230	"	107			
	4:00	237	"	104.5	111.7	74.7	
	:10	247	"	101.7			
	:17	254	"	100			-1.093
	:20	257	"	97			
	:30	270	"	88.5			
	:40	280	"	76.2			
	:47	287	"	50	114	74.7	-1.023

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS IDLE
4/24/09			Charge			74.5
	AM 4.55	0	30		1147	74.5
	5.55	1	"		112	74.5
	6.55	2	"		1022	74
	7.55	3	"		1.0	73
	8.55	4	"		1012	73.5
	9.55	5	"		99	72.2
	10.55	6	"		99	72
	11.55	7	"	.176	989	71.5
			Discharge		# 1.148	
4-24-09	PM 12.00	0	40	1945		
	.02	2	"	1262		
	.05	5	"	1237		
	.10	10	"	132		
	.20	20	"	1245		
	.30	30	"	127		
	.40	40	"	1225		
	1.00	60	"	1227	102	72
	.20	80	"	1207		
	.40	100	"	119		
	2.00	120	"	118	103	72.5
	.20	140	"	1165		
	.40	160	"	1115		
	3.00	180	"	113	1093	72.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP idle
4-24-09	PM 3.20	200	40	1107		
	.40	220	"	1072		
	.50	230	"	1.05	110	72.5
	4.00	240	"	102		
	.05	245	"	100		-1613
	.10	250	"	.982		
	.20	260	"	.972		
	.30	270	"	.912		
	.40	280	"	.88	113	72.5
	.42	282	"	80		198
	Stood thirty six + half (36 1/2) hours over Sunday Mg.					
4/25			Charge		# .149	
	AM 4.55	0	30		71.	70
	5.55	1	"		77.5	70.5
	6.55	2	"		71.5	71
	7.55	3	"		84	70.2
	8.55	4	"		92	71
	9.55	5	"		95	72
	10.55	6	"		91.5	73
	11.55	7	"	.179	95	74

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP dole	
				Discharge 149			
4-26-09	PM 12:00	0	40	146			
	01	2	"	136			
	.05	5	"	134			
	.10	10	"	132			
	.20	20	"	127			
	.30	30	"	127			
	.40	40	"	132			
	1.00	60	"	123	99	74.7	
	.20	80	"	121			
	.40	100	"	120			
	2.00	120	"	1.25	103	75	
	.20	140	"	1.17			
	.40	160	"	1.16			
	3.00	180	"	1.15	105	76	
	.20	200	"	1.05			
	.40	220	"	1.095			
	4.00	240	"	104	110	76.5	
	.10	250	"	100			-1067-
	.20	260	"	.93			
	.30	270	"	.81			
	.37	277	"	.50	112	76.5	-1947-

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP dole	
				Charge 50			
2-26-09	PM 4.55	0	30		113	74.5	
	5.55	1	"		110	73.7	
	6.55	2	"		107.5	74.5	
	7.55	3	"		105	75.5	
	8.55	4	"		104	76	
	9.55	5	"		103	76.2	
	10.55	6	"		101.2	76.2	
	11.55	7	"	176	100.5	75.5	
				Discharge 150			
4/27	AM 12:00	0	40	142			
	.05	2	"	136.2			
	.10	5	"	134			
	.20	10	"	132.2			
	.30	20	"	130			
	.40	30	"	128			
	1.00	40	"	126			
	.20	60	"	123	103	75	
	.40	80	"	121			
	2.00	100	"	118.2	103.5	73.5	
	.20	120	"	117			
	.40	140	"	115.7			
	3.00	160	"	115	104.5	73.5	

DATE	TIME	MIN	AMPS	VOLTS	TEMPS. 39F	39F	IDLE	
4/27/09	AM 3:20	240	40	111				
	.40	220	"	107				
	.50	230	"	105				
	4:00	240	"	102				
	10	240	"	100	108	72.5	-1027	
	.10	250	"	97.5				
	.20	260	"	97.5				
	.30	270	"	79				
	.40	270	"	50	100.2	72.5	-1067	
4/27	AM	Charge		1.51				
	4:55	0	30	111.5		72.5		
	5:55	1	"	109.5		73.2		
	6:55	2	"	105		74		
	7:55	3	"	102		73.2		
	8:55	4	"	99		72		
	9:55	5	"	99.5		73.5		
	10:55	6	"	97.2		73		
	11:55	7	"	98	99.5	72.5		
		Discharge		5.1				
4/27/09	PM 12:00	0	40	142				
	.02	2	"	136				
	.05	5	"	130.5				
	.10	10	"	132				
	.20	20	"	129				
	.30	30	"					

DATE	TIME	MIN.	AMP	VOLTS 39F	TEMP 39F	idle	
4/27/09	PM 12:20	40	40	125			
	.30	50	"	123	101	73.2	
	.40	60	"	121			
	.50	80	"	121			
	1:00	100	"	119.5			
	.20	120	"	118	105	72.5	
	.30	140	"	117			
	.40	160	"	115			
	.50	180	"	114	104	73.2	
	2:00	200	"	112			
	.40	220	"	107.5			
	3:00	240	"	102.5	106	73	
	.07	247	"	100			-1065
	.10	250	"	98			
	.20	260	"	92			
	.30	270	"	83			
	.40	280	"	61			
	.46	286	"	50	109	72.2	-1003
		Charge		1.52			
4/27/09	PM 4:55	0	30	111.5		72.5	
	5:55	1	"	107		72.5	
	6:55	2	"	103.5		72.5	
	7:55	3	"	101.2		72.5	
	8:55	4	"	99.5		72.7	
	9:55	5	"	97		73	
	10:55	6	"	96.5		73.2	

DATE	TIME	MIN	AMPS	VOLTS 39#	TEMP 39#	TEMP Solar	
4/27/09	PM 11.55	7	20	178	99	74	
			Discharge				152
4/28	AM 12.00	0	40	142			
	.02	2	"	137			
	.05	5	"	134.2			
	.10	10	"	132.5			
	.20	20	"	130.2			
	.30	30	"	127			
	.40	40	"	126			
	1.00	60	"	123.7	102	74.2	
	.20	80	"	121.7			
	.40	100	"	120.5			
	2.00	120	"	118.7	106	74.2	
	.20	140	"	117.7			
	.40	160	"	116.5			
	3.00	180	"	114.2	107.7	74.5	
	.20	200	"	112.2			
	.40	220	"	109.5			
	.50	230	"	107.5			
	4.00	240	"	105	111	75	
	.10	250	"	102			
	.13½	253½	"	100			169
	.20	260	"	97.5			
	.30	270	"	94			
	.40	280	"	89			
	.55	295	"	68.2			
	.58	298	"	50	1132	75	193

DATE	TIME	MIN	AMP	VOLTS 39#	TEMPS 39#	TEMPS IDLE
4/28/09	AM		Charge			153
	4.55	0	30		117	75
	5.55	1	"		1127	74.5
	6.55	2	"		108	74.5
	7.55	3	"		105	74.2
	8.55	4	"		102	74
	9.55	5	"		1005	74
	10.55	6	"		101	74.2
	11.55	7	"	134	105	74
			Discharge		153	
4-12-09	PM 12.00	0	40	143		
	.02	2	"	1367		
	.05	5	"	134		
	.10	10	"	1325		
	.20	20	"	130		
	.30	30	"	1277		
	.40	40	"	126		
	1.00	60	"	123	1049	74.2
	.20	80	"	121		
	.40	100	"	119.5		
	2.00	120	"	118	106	74.5
	.20	140	"	117		
	.40	160	"	115.2		
	3.00	180	"	1127	110	75.2

DATE	TIME	MIN.	AMP	VOLTS 39R	TEMP 39R	TEMP 40R	
4-28-09	PM 3.20	200	40	111			
	.40	220	"	109.2			
	4.00	240	"	102	112	76.2	
	.04	244	"	100			-164
	.10	250	"	98			
	.20	260	"	95			
	.40	280	"	62			
	.43	283	"	60	115	75.2	-189.7
				Change		154	
4-28-09	PM 4.55	0	30		118.5	75	
	5.55	1	"		113.5	75	
	6.55	2	"		109.7	75	
	7.55	3	"		106.2	75	
	8.55	4	"		104	74.7	
	9.55	5	"		102.5	74.5	
	10.55	6	"		102.7	74.5	
	11.55	7	"	175	102.5	75	
				Discharge		154	
4/29	AM 12.00	0	40	141			
	.02	2	"	134.2			
	.05	5	"	134.2			
	.10	10	"	133.2			
	.25	20	"	130			

DATE	TIME	MIN	AMPS	VOLTS 39R	TEMPS 39R	TEMPS 40CS	
4/29/09	AM 12.30	30	40	128			
	.40	40	"	126			
	1.00	60	"	123.7	106	74.7	
	.20	80	"	121			
	.40	100	"	120			
	2.00	120	"	118	107.2	74.2	
	.20	140	"	117			
	.40	160	"	116			
	3.00	180	"	114	109	74	
	.20	200	"	110.5			
	.40	220	"	117			
	.50	230	"	104.5			
	4.00	240	"	102	112	73.7	-164
	.04	244	"	100			
	.10	250	"	98			
	.20	260	"	92			
	.30	270	"	83			
	.35	275	"	78			
	.40	280	"	65			
	4.43½	283½	"	50	114	73.5	189
				Change		155	
4/29	AM						
	4.55	0	30		115.5	73.5	
	5.55	1	"		110	72	
	6.55	2	"		106	71.5	
	7.55	3	"		104.5	72	
	8.55	4	"		101.5	72	

DATE	TIME	MIN	AMP	VOLTS	TEMPS 35K	39K	104K	
4/28/09	AM 9.55	5	30			100.5	72	
	10.55	6	"			100	72	
	11.55	7	"	126		100.5	72	
				Discharge T55				
4-29-09	PM 12.00	0	40	133				
	.02	2	"	137				
	.05	5	"	134.5				
	.10	10	"	132				
	.20	20	"	130				
	.30	30	"	127.5				
	.40	40	"	126				
	1.00	60	"	122	102.7	72.5		
	.20	80	"	121				
	.40	100	"	119.7				
	2.00	120	"	118	105	72.2		
	.20	140	"	117				
	.40	160	"	115.7				
	3.00	180	"	114	109	73.2		
	.20	200	"	112				
	.40	220	"	106.2				
	4.00	240	"	104	110	73.2		
	.20	260	"	100			167	
	.40	280	"	94				
	5.00	300	"	77				

DATE	TIME	MIN	AMP	VOLTS 39K	TEMP 39K	104K	
4-29-09	PM 4.48	288	40	50	114	72.2	71.92
				Charge T56			
4-29-09	PM 4.55	0	30		114	72	
	5.55	1	"		112	72	
	6.55	2	"		108.5	72	
	7.55	3	"		104.7	72	
	8.55	4	"		101	72	
	9.55	5	"		100.5	72	
	10.55	6	"		99.2	72.2	
	11.55	7	"	126.2	100.5	74	
				Discharge T56			
4/30	AM 12.00	0	40	134.7			
	.02	2	"	137			
	.05	5	"	134.2			
	.10	10	"	132.2			
	.20	20	"	130			
	.30	30	"	128			
	.40	40	"	126			
	1.00	60	"	123	102	74	
	.20	80	"	121			
	.40	100	"	119.5			
	2.00	120	"	118	108.7	73.7	
	.20	140	"	117			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS 1045	
4/30/09	2.40	160	40	115			
	3.00	180	"	113	106.5	73.5	
	.20	200	"	110.2			
	.40	220	"	106			
	.50	230	"	103			
	4.00	240	"	100	109	73	-160.
	.10	250	"	97			
	.20	260	"	92			
	.30	270	"	82			
	.40	280	"	64			
	.44	284	"	50	112.5	73	-198.3
4/30			Change	157			
	AM						
	4.55	0	30		112	73	
	5.55	1	"		109	72.2	
	6.55	2	"		105	72.2	
	7.55	3	"		102	72	
	8.55	4	"		100	72	
	9.55	5	"		99	72	
	10.55	6	"		99	71.5	
	11.55	7	"	126	98	72	
			Discharge	157			
	P.M.						
4-30-09	12.00	0	40	130			
	.02	2	"	129			
	.05	5	"	127.5			
	.10	10	"	122			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP 1045	
	P.M.						
4-30-09	12.20	20	40	130			
	.30	30	"	127			
	.40	40	"	125			
	1.00	60	"	123	122	72	
	.20	80	"	120			
	.40	100	"	119			
	2.00	120	"	118	104	72	
	.20	140	"	117			
	.40	160	"	115			
	3.00	180	"	113	107	72.7	
	.20	200	"	110			
	.40	220	"	105			
	4.00	240	"	100	109	73	-160.
	.20	260	"	91.5			
	.30	270	"	82.2			
	.40	280	"	61			
	.43	283	"	50	113	72.2	-198.
			Change	158			
4-30-09	4.55	0	30		116	73	
	5.55	1	"		110.5	73	
	6.55	2	"		105.2	73.5	
	7.55	3	"		105.2	72.5	
	8.55	4	"		102.2	72.5	
	9.55	5	"		101	72.7	

Date	Time	Min.	Amp	Volts 392	Temp 398	Sol.	
4/30/19	10.55	6	20		100	74	
	11.55	7	"	1207	100	74	
				Discharge		154	
5/1	12.55	0	4	140.2			
	.02	2	"	136			
	.05	5	"	134			
	.10	10	"	132.2			
	.20	20	"	129.7			
	.30	30	"	127.7			
	.40	40	"	126			
	1.00	60	"	123	102	73.2	
	.20	80	"	121.7			
	.40	100	"	119			
	2.00	120	"	118	103.5	72.5	
	.20	140	"	117			
	.40	160	"	115			
	3.00	180	"	113	106	72.5	
	.20	200	"	102			
	.40	220	"	106			
	.50	230	"	103.7			
	4.00	240	"	101	109.7	72.5	-163
	.05	245	"	100			
	.10	250	"	97			
	.20	260	"	92.2			
	.30	270	"	89.2			
	.40	280	"	68			
	.45	285	"	50	112.5	72.5	-190

Date	Time	Min.	Amp	12.5	75 mins		
				39.5	40.5	102.2	
	Stop for charge + quarter hours over the hour						
4/6				Charge		159	
	4.55	0.	20		69.5	69.5	
	5.55	1.	"		75	69	
	6.55	2.	"		77.5	67	
	7.55	3.	"		79	65.5	
	8.55	4	"		81.5	66.5	
	9.55	5	"		82.5	67.5	
	10.55	6	"		89	68.5	
	11.55	7	"	177	92	70	
				Discharge		159	
4-6-19	Pm. 12.00	0.	40	1235			
	.02	2	"	1325			
	.05	5	"	134			
	.10	10	"	1307			
	.20	20	"	139			
	.30	30	"	137			
	.40	40	"	1355			
	1.00	60	"	132	99.7	72.5	
	.20	80	"	1205			
	.40	100	"	119			
	2.00	120	"	118	101.2	72.2	
	.20	140	"	1.167			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP class	
	PM						
5/2/09	2.40	160	40	1.157			
	3.00	180	"	1.132	103.2	72	
	.20	200	"	1.110			
	.40	220	"	1.052			
	.50	230	"	1.02			
	.56	236	"	1.00			-1583
	4.00	240	"	.982	101.7	71.7	
	.10	250	"	.87			
	.20	260	"	.83			
	.30	270	"	.167			
	.33	273	"	.150			-192.
				Charge # 160			
	PM.						
5-3-09	4.55	0	30		105.	71.5	
	5.55	1	"		106.7	71.5	
	6.55	2	"		105.2	72	
	7.55	3	"		103.7	72	
	8.55	4	"		101.	72	
	9.55	5	"		100.	72	
	10.55	6	"		1.01.	73.	
	11.55	7	"	1.25.7	100.5	73.2	
				Discharge		160	
	AM						
5/4	12.00	0	40	1.42			
	.02	2		1.32			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP class	
5/4/09	AM 12.05	5	40	1.325			
	.10	11	"	1.325			
	.20	20	"	1.33			
	.30	30	"	1.27.7			
	.40	40	"	1.25.7			
	1.00	60	"	123	103.5	73	
	.20	80	"	121			
	.40	100	"	119.5			
	2.00	120	"	116	109.5	72.5	
	.20	140	"	116.5			
	.40	160	"	115			
	3.00	180	"	112.2	108.5	72.5	
	.20	200	"	110			
	4.40	220	"	105.7			
	.50	230	"	105			
	5.00	240	"	102	109.5	72.5	— 160.
	.10	250	"	96.2			
	.20	260	"	91			
	.30	270	"	82			
	.40	280	"	62			
	.43	283	"	50	111.5	72.5	-1.89.7
				Charge		160	
5/4	AM						
	6.55	0	30		112.5	72.7	
	7.55	1	"		110	73	
	8.55	2	"		108.7	73	
	9.55	3	"		107	72.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS 10CB	
5/4/09	AM 8.55	4	30		100.5	72.7	
	9.55	5	"		98.5	72.5	
	10.55	6	"		98.5	72	
	11.55	7	"	1.26	99	72	
				Discharge #161			
5/4	PM 12.00	0	40	1.425			
	02	2	"	1.367			
	05	5	"	1.337			
	10	10	"	1.32			
	20	20	"	1.29			
	30	30	"	1.272			
	40	40	"	1.257			
	1.00	60	"	1.23	101.2	72	
	20	80	"	1.205			
	40	100	"	119			
	2.00	120	"	1.172	101.7	71.5	
	20	140	"	116			
	40	160	"	1.14			
	3.00	180	"	1.117	102	71.5	
	20	200	"	108			
	40	220	"	1.092			
	50	230	"	101			
	53	233	"	1.00			155.3
	400	240	"	97	104.7	71.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adk.	
5/4/09	PM 4.10	250	40	.937			
	20	260	"	.87			
	30	270	"	.737			
	39	278	"	.150			185.3
				Charge #162			
5/4	PM 4.55	0	30		107.5	71.5	
	5.55	1	"		105	72	
	6.55	2	"		104	71.5	
	7.55	3	"		102	71	
	8.55	4	"		102	71.7	
	9.55	5	"		102	73	
	10.55	6	"		100	72.2	
	11.55	7	"	1.77	102	72.2	
				Discharge #162			
5/5	AM 12.00	0	40	1.415			
	02	2	"	1.365			
	05	5	"	1.347			
	10	10	"	1.325			
	20	20	"	1.31			
	30	30	"	1.297			
	40	40	"	1.287			
	1.00	60	"	1.273	103	73	

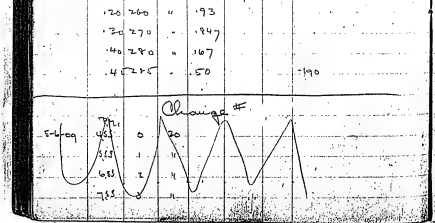
DATE	TIME	MIN	AMPS	VOLTS 398	TEMPERS 398	TEMPERS 1026	
5/5/49	1.20 AM	20	40	121.5			
	.40	100	"	119.7			
	2.00	120	"	118	109.2	72.5	
	.20	140	"	117			
	.40	160	"	116			
	3.00	180	"	113	106	72.5	
	.20	200	"	110.2			
	.40	220	"	106			
	.50	230	"	103.7			
	4.00	240	"	100	105	72.5	-160
	.10	250	"	99.7			
	.20	260	"	97.2			
	.30	270	"	94			
	.40	280	"	67			
	.45	285	"	50	104.2	71	-190
5/5	AM	Change		163			
	4.55	0	30	113	71		
	5.55	1	"	119	72.4		
	6.55	2	"	106.5	74		
	7.55	3	"	99	73.7		
	8.55	4	"	99	72.7		
	9.55	5	"	98	71.7		
	10.55	6	"	98	72.2		
	11.55	7	"	98	72.2		

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP 1026	
	PM		Discharge # 163				
5-5-49	12.00	0	40	112			
	.02	2	"	1.13			
	.05	5	"	1.13			
	.10	10	"	112			
	.20	20	"	1.09			
	.30	30	"	1.07			
	.40	40	"	1.06			
	1.00	60	"	1.05	101	73.2	
	.20	80	"	1.02.2			
	.40	100	"	1.07			
	2.00	120	"	1.07	102.7	73.5	
	.20	140	"	1.06			
	.40	160	"	1.04.2			
	3.00	180	"	1.02	104	73	
	.20	200	"	1.09			
	.40	220	"	1.04.2			
	.50	230	"	1.01.7			
	.55	235	"	1.00			-158.7
	4.00	240	"	1.98.2	105	73.5	
	.10	250	"	1.95			
	.20	260	"	1.89			
	.30	270	"	1.81.7			
	.40	280	"	1.61.7			
	.44	284	"	50			-189.3

DATE	TIME	MIN	AMPS	VOLTS 39S	TEMP. 39S	TEMP. Adlc	
			Charge		164		
5/5/09	PM 4.55	0	30		110.5	73.2	
	5.55	1	"		105.	73.	
	6.55	2	"		103.	73.5	
	7.55	3	"		101.5	74.	
	8.55	4	"		100.5	74.5	
	9.55	5	"		99.5	75	
	10.55	6	"		99.7	75	
	11.55	7	"	174	100.2	75.7	
			Discharge		164		
5/6	AM 12.00	0	40	.141			
	.02	2	"	.136			
	.05	5	"	.134			
	.10	10	"	.132			
	.20	20	"	.129			
	.30	30	"	.127			
	.40	40	"	.125			
	1.00	60	"	.122	102.5	76	
	.20	80	"	.120			
	.40	100	"	.118.5			
	2.00	120	"	.117.5	1.85	75	
	.20	140	"	.116			
	.40	160	"	.114.2			
	3.00	180	"	.111	1.85	72	

DATE	TIME	MIN	AMPS	VOLTS 39V	TEMPS 39S	TEMPS 1045	
5/6/09	AM 3.25	200	40	107.5			
	.30	210	"	107.2			
	.40	220	"	107			
	.45	225	"	102			-152
	.50	230	"	99			
	4.03	243	"	96.2	109	73.	
	.10	250.4	"	92.2			
	.20	260	"	85			
	.30	270	"	70			
	.35	275	"	56			
	.36	276	"	50	107.5	72.5	-1993
5/6			Charge		165		
	AM 4.55	0	30		108.5	72	
	5.55	1	"		107.5	73	
	6.55	2	"		104	71.5	
	7.55	3	"		101.2	71.2	
	8.55	4	"		97.5	72	
	9.55	5	"		96	72.5	
	10.55	6	"		93	76	
	11.55	7	"	180	99.5	73	
			Discharge		165		
5/6/09	PM 12.00	0	40	142			
	.02	2	"	1339			
	.05	5	"	1337			
	.10	10	"	132			
	.20	20	"	129			

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP other	
5-6-09	PM 12.20	20	40	1.19			
	.40	40	"	1.22			
	1.00	60	"	1.22	103	90	
	.20	80	"	1.202			
	.40	100	"	1.19			
	2.00	120	"	1.177	106.5	80.5	
	.20	140	"	1.162			
	.40	160	"	1.15			
	3.00	180	"	1.13	113.2	91.7	
	.20	200	"	1.097			
	.40	220	"	1.055			
	.50	220	"	1.022			
	4.00	240	"	1.00	113	83	-160
	.10	250	"	.962			
	.20	260	"	.93			
	.30	270	"	.847			
	.40	280	"	.167			
	.45	285	"	.50			-190



Run continued to Vol. III.

A4 #398

Run	Charge	Disch	C.Temp	Ampere-Hours To 1V.	Ampere-Hours To .5V.	Remarks
	See Runs #1-74 in Volume I.					
75	4 hrs. @ 30	Oct 30	97.7	117.2	—	
76	2 hrs. @ 30 60	"	98.1	58.5	—	
77	"	"	98.2	60	—	
78	"	"	98.6	60	—	
79	"	"	90.7	58.2	—	58.6
80	"	"	90.1	58.7	—	
81	4 hrs. @ 30 120	"	98.1	120.7	—	
82	"	"	90.3	116.7	—	Prev. Table 41 Hours
83	"	"	89.4	118.5	—	117.2 Av.
84	"	"	90	116.5	—	
85	6 hrs. @ 30 180	"	90.3	162	—	(141 in 5 hrs. only)
86	"	"	91.8	165.5	—	163.7
87	"	"	88.4	163.5	—	
88	7 hrs @ 30 210	"	87	181.5	—	
89	"	"	85.7	183	—	182.8
90	"	"	87.6	184	—	
91	8 hrs. @ 30 240	"	86.9	194	—	
92	"	"	90.1	194.2	—	194.6
93	"	"	81	192.5	—	Prev. Table 35 Hrs.
94	"	"	91.8	195.3	—	
95	10 hrs. @ 30 300	"	90.9	200.2	—	200.2
96	"	"	92.4	202.2	—	
97	12 hrs. @ 30 360	"	96.1	210.5	—	210.6
98	"	"	96.3	210.7	—	

Run	Charge	Dis.	C.Temp	Ampere-Hours To 1V.	Ampere-Hours To .5V.	Remarks
99	15 hrs. @ 30 450	Oct 30	89.2	216	—	215.5
100	"	"	86.2	213	—	Prev. Table 41 Hrs.
101	"	"	91.2	217.5	—	
102	7 hrs. @ 30	"	91	189.5	—	
103	"	"	88.2	197	—	
104	"	"	92.6	196.7	—	
105	"	"	92.3	197.2	—	
106	"	"	89.7	197.7	—	
107	"	"	90.7	196.5	—	
108	"	"	92.6	195.7	—	Prev. Table 51 Hrs.
109	"	"	97	195	—	
110	"	"	90.4	198.7	—	
111	"	"	89.3	198.7	—	
112	"	"	90.9	198	215.2	
113	"	"	89.5	172	187.7	
114	"	"	82.4	177	190	
115	"	"	90.3	178.5	192.2	
116	"	"	80.7	177.5	192	Prev. Table 44 hrs.
117	"	"	94.4	178	190	
118	"	"	90.3	181	194.2	
119	"	"	92.7	177	190	
120	"	"	89.5	179	—	
121	"	"	90.2	185	—	
122	"	"	95	187.2	—	
123	"	"	90.7	185	—	

A4 #398.

Run	Charge	Discha	C. Temp	Ampere-Hours to 1V.	Ampere-Hours to .5V.	Remarks
124	7 hrs @ 30	Oct 30	92.6	185.5	—	
125	"	"	94.8	184.2	—	Prev. Idle 38 Hours
126	"	"	94.9	183.5	—	" " " 11 "
127	"	"	90.4	182.2	—	" " " 11 "
128	"	"	92.9	181.5	—	" " " 11 "
129	"	"	94.8	181.7	—	" " " 11 "
130	"	"	91.6	184.2	—	" " " 11 "
131	"	"	82.4	182.2	—	" " " 35 "
132	"	"	95.5	181.7	—	" " " 72 "
133	"	"	97.5	185	—	Consecutive Run
134	"	"	91.1	182.5	—	" " " "
135	"	"	93.2	184.5	—	" " " "
136	"	"	94.4	182	—	" " " "
137	"	"	90.7	182.5	—	" " " "
138	"	"	89.6	186	—	" " " "
139	"	"	89.9	180.5	208.2	" " " "
140	15 hrs @ 30	"	92	217	240.	Prev. Idle 37 Hrs.
141	"	"	90.2	222.	242.5	
142	7 hrs @ 30	Oct 40		168	184.5	
143	"	"		173.3	192.7	
144	"	"		170.4	190.4	
145	"	"		173.3	194	
146	"	"		170.3	190.7	
147	"	"		168.3	192.3	
148	"	"		165.3	188	

Run	Charge	Dis.	398 1V.	398 .5V.	Remarks
149	7 hrs @ 30	Oct 40	161.7	184.7	Prev. Idle 36 Hrs.
150	"	"	162.7	186.7	
151	"	"	165	190.3	
152	"	"	169	193	
153	"	"	164	188.7	
154	"	"	164	189	
155	"	"	167	192	
156	"	"	160	189.3	
157	"	"	160	188.7	
158	"	"	163	190	
159	"	"	155.3	182	Prev. Idle.
160	"	"	160	188.7	
161	"	"	155.3	185.3	
162	"	"	160	190	
163	"	"	158.7	189.3	
164	"	"	152	184.3	
165	"	"	160	190	

Results Continued in Vol. III

Notebook, N-09-05-06

A4 CELL #398. 5-6-09

Volume III.

Runs Continued from Vol. II.

Date	Time	Min	Amp	Volts #398	Temp #398	Temp Sole	
			Charge #			166.	
	Pm.						
6-6-09	4.55	0	30		1.97	83.5	
	5.55	1	"		116.	83.7	
	6.55	2	"		114.2	84	
	7.55	3	"		112.7	84	
	8.55	4	"		112.	84.	
	9.55	5	"		111.	84	
	10.55	6	"		109.5	83.5	
	11.55	7	"	1.72	107.5	82	
			Discharge # 166				
	AM						
5/7/09	12.00	0	40	1.40			
	.02	2	"	1.35			
	.05	5	"	1.337			
	.10	10	"	1.32			
	.20	20	"	1.29			
	.30	30	"	1.265			
	.40	40	"	1.247			
	1.00	60	"	1.22	109.2	81.5	
	.20	80	"	1.202			
	.40	100	"	1.19			
	2.00	120	"	1.172	112.5	82	
	.20	140	"	1.157			
	.40	160	"	1.13			
	3.00	180	"	1.11	114.2	82.	

Date	Time	Min	Amps	Volts #398	Temp #398	Temp Sole	
	AM						
5/7/09	3.20	200	40	1.09			
	.30	210	"	1.07			
	.40	220	"	1.06			
	.50	230	"	1.06			
	4.00	240	"	.97	117.7	81.7	-152.3
	.10	250	"	.96.2			
	.20	260	"	.96			
	.30	270	"	.68			
	.35	275	"	.57.7			
	.35½	275	"	.0	119.7	81.7	-183.7
5/7			Charge # 167				
	4.55	0	30		124.5	81	
	5.55	1	"		115.5	80.5	
	6.55	2	"		111	79.5	
	7.55	3	"		108	78.5	
	8.55	4	"		105	77.7	
	9.55	5	"		103	77.2	
	10.55	6	"		102.7	77	
	11.55	7	"	1.75	102.5	77	
			Discharge # 167				
	Pm.						
5-7-09	12.00	0	40	1.43			
	.02	2	"	1.365			
	.05	5	"	1.337			
	.10	10	"	1.32			
	.20	20	"	1.297			
	.30	30	"	1.275			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Solder	
5-7-09	PM 12.45	40	40	122			
	1.00	60	"	122	106.5	78	
	.20	80	"	120			
	.40	100	"	118			
	2.00	120	"	117	108.5	78	
	.20	140	"	116			
	.40	160	"	114			
	3.00	180	"	111	112.2	78	
	.20	200	"	107			
	.30	210	"	105			
	4.00	220	"	102.7			
	.18	229	"	100			-152
	50	230	"	99.5			
	5.00	240	"	97.5	116.7	78.5	
	.10	250	"	94			
	.20	260	"	87			
	.30	270	"	74			
	.37	277	"	50			-124.7
			Charge # 168				
5-7-09	PM 4.55	0	20		118	79.	
	5.55	1	"		113.	77.5	
	6.55	2	"		107.5	77	
	7.55	3	"		104.	77	
	8.55	4	"		101	76.5	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Solder	
5-7-09	PM 9.55	5	20		100	76.5	
	10.55	6	"		100.	76.5	
	11.55	7	"	175.7	104.7	76	
				Discharge		168	
5/8	AM 12.00	0	40	141			
	.02	2	"	136			
	.05	5	"	133.5			
	.10	10	"	131.7			
	.20	20	"	129			
	.30	30	"	127			
	.40	40	"	125			
	1.00	60	"	122	108	76.5	
	.20	80	"	120			
	.40	100	"	119.2			
	2.00	120	"	117	106.5	76.5	
	.20	140	"	116			
	.40	160	"	113.7			
	3.00	180	"	113.2	103.7	77	
	.20	200	"	103			
	.38	218	"	102.5			
	.40	220	"	101.7			
	.50	230	"	100			-153.3
	4.00	240	"	97	113	77	
	.10	250	"	93.7			
	.20	260	"	88			
	.30	270	"	77			
	.35	275	"	63.7			
	.37½	277½	"	50	116	77	-184.3

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMPS 39.2	101.6
5/6/07	AM			Change	"	169
	4.55		22		115.5	77.5
	5.55				112.2	77.5
	6.55				114.7	78
	7.55				106	78
	8.55				103.5	77
	9.55				101.7	76.3
	10.55				100.5	76
	11.55				100	76
	Steel changed that was (20) hours -					
		Stand.		Stop.		Discharge "169
5/6	AM 12.00	0	43	127	75.5	74.5
	.02	2	"	124		
	.05	5	"	122		
	.10	10	"	121		
	.20	20	"	119.7		
	.30	30	"	118.2		
	.40	40	"	117		
	1.00	60	"	116	85	75
	.20	80	"	114.2		
	.40	100	"	113.7		
	2.00	120	"	112.5	93.2	75
	.20	140	"	111		
	.40	160	"	109.2		
	.50	170	"	107		
	3.00	180	"	106.2	102.5	75.5

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMPS 39.2	101.6	
5/10/07	AM 3.10	190	43	103			
	.20	200	"	100			-133.3
	.30	210	"	97			
	.40	220	"	94			
	.50	230	"	90.2			
	4.00	240	"	86	106	75.7	
	.10	250	"	68			
	.16	256	"	50	107.7	76	-120.7
				Change		170	
5/10	AM 4.55	0	30		105.7	76	
	5.55	1	"		105.7	76	
	6.55	2	"		103	76	
	7.55	3	"		102.2	76	
	8.55	4	"		101.2	75	
	9.55	5	"		94.5	74.5	
	10.55	6	"		93.7	75.5	
	11.55	7	"	178	93.2	77	
				Discharge		170	
5-10-07	12.00	0	40	103			
	.02	2	"	102.5			
	.05	5	"	102.5			
	.10	10	"	102			
	.20	20	"	101			
	.30	30	"	102.7			
	.40	40	"	102.7			

Date	Time	Min	Amps	Volts	Temp 298	Temp 398	Temp Side	
5-10-09	PM 1.00	60	40	122	98.5	78		
	.20	80	"	1.20				
	.40	100	"	1.18				
	2.00	120	"	1.17	101.7	72.5		
	.20	140	"	1.15				
	.40	160	"	1.13				
	3.00	180	"	1.112	104	79		
	.20	200	"	1.08				
	.30	210	"	1.057				
	.40	220	"	1.032				
	.50	230	"	1.00				-1522
	4.00	240	"	.97	106.2	79		
	.10	250	"	.942				
	.30	260	"	.90				
	.30	270	"	.802				
	.40	280	"	.50				-1267
				Charge # 1-1				
5-10-09	PM 4.55	0	30		116.5	78		
	5.55	1	1		109.5	78		
	6.55	2	1		106.2	78		
	7.55	3	1		103.5	78		
	8.55	4	1		101	78		
	9.55	5	1		99.5	78		
	10.55	6	1		99.2	76.2		

Date	Time	Min	Amps	Volts 298	Temp 398	Temp Side	
5-16-09	PM 11.55	7	30	176	102	76.2	
				Discharge 171			
5/11	AM 12.00	0	40	140			
	.02	2	"	137			
	.05	5	"	134			
	.10	10	"	132			
	.20	20	"	129.7			
	.30	30	"	127			
	.40	40	"	125.5			
	1.00	60	"	122.2	104	75.7	
	.20	80	"	120.2			
	.40	100	"	118.5			
	2.00	120	"	117	107	76	
	.20	140	"	116			
	.40	160	"	114			
	3.00	180	"	112	109.5	76.2	
	.20	200	"	108			
	.30	210	"	105.5			
	.40	220	"	103			
	.50	230	"	100			-1553
	4.00	240	"	97.7	112	75.2	
	.10	250	"	94			
	.20	260	"	87			
	.30	270	"	75			
	.39	279.2	"	.50	114.5	74.7	-1863

DATE	TIME	MIN.	AMP	VOLTS	398	398	1045	
5/11/09			Discharge		172			
	9.00				111	74		
	5:00	1	"		1107	74		
	6:00	2	"		107	73.5		
	7.00	3	"		104	73		
	8.00	4	"		1015	73		
	9:00	5	"		999	73.5		
	10:00	6	"		989	72		
	11.00	7	"	126	99	707		
			Discharge		= 172			
5-11-09	P.M. 12.00	0	40	142				
	.02	2	"	1.36 PM				
	.05	5	"	1.42				
	.10	10	"	132				
	.20	20	"	1.28				
	.30	30	"	137				
	.40	40	"	1.22				
	1.00	60	"	1.222	102.5	73.2		
	.20	80	"	1.20				
	.40	100	"	1.19				
	2.00	120	"	1.172	104.5	72.7		
	.20	140	"	1.16				
	.40	160	"	1.14				
	3.00	180	"	1.115	1045	72.7		

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Shelf	
5/11/09	PM 3.20	200	40	1.08			
	.42	222	"	1.027			
	.50	230	"	1.00			— 153.3
	4.00	240	"	.97	1092	72.7	
	.10	250	"	.942			
	.20	260	"	.90			
	.30	270	"	.74			
	.38	278	"	.50			— 185.3
				Charge # 173			
5/11/09	PM 4.55	0	30		1.107	71.7	
	5.55	1	"		1.105	71.2	
	6.55	2	"		105	71.	
	7.55	3	"		1027	71.5	
	8.55	4	"		102	72	
	9.55	5	"		101	73	
	10.55	6	"		100.7	73.2	
	11.55	7	"	126.2	100	73	
				Discharge # 173			
5/12	AM 12.00	0	40	142.5			
	.02	2	"	136.7			
	.05	5	"	134			
	.10	10	"	132			

DATE	TIME	MIN	AMP	VOLTS	TEMP		
				39.4	39.8	Cells	
	10:55	6	30		97.7	72	
	11:57	7	"		98.5	73	
			Discharge # 174				
5/12	AM 12:00	0	40	1.48			
	.05	5	"	1.34			
	.10	10	"	1.32			
	.20	20	"	1.295			
	.44	44	"	1.245			
	1:01	61	"	1.225	103	74.2	
	20	80	"	1.215			
	40	100	"	1.187			
	2:00	120	"	1.172	105.5	75.5	
	20	140	"	1.16			
	40	160	"	1.142			
	3:00	180	"	1.12	108.5	76.5	
	20	200	"	1.08			
	30	210	"	1.065			
	40	220	"	1.04			
	50	230	"	1.005			
	52	232	"	1.00			154.7
	4:00	240	"	.98	113.5	77.7	
	10	250	"	.952			
	20	260	"	.70			
	30	270	"	.792			
	40	280	"	.750			186.7

DATE	TIME	MIN	AMP	VOLTS	TEMP		
				39.4	39.4	102.5	
5/12/69	2.[illegible]	[illegible]	"	129.5			
	[illegible]	[illegible]		127.[illegible]			
	[illegible]	[illegible]		125.7			
	1.[illegible]	[illegible]	"	122	102	73	
	[illegible]	[illegible]		120.2			
	[illegible]	[illegible]		119			
	2.[illegible]	[illegible]	"	117	104	73	
	[illegible]	[illegible]		1.[illegible]			
	[illegible]	[illegible]		115			
	3.[illegible]	[illegible]	"	111	106.5	73	
	[illegible]	[illegible]		109.2			
	[illegible]	[illegible]		107.7			
	[illegible]	[illegible]		106.5			
	[illegible]	[illegible]		105			
	4.[illegible]	[illegible]	"	97	110	73	153.3
	[illegible]	[illegible]		95.7			
	[illegible]	[illegible]		94			
	[illegible]	[illegible]		92.7			
	[illegible]	[illegible]		91			
	141	281	"	50	112	73	187.3
5/12	[illegible]	Discharge	"		174		
	4.55	0	30		111.2	73	
	5.55	1	"		109	72	
	6.55	2	"		105	72.7	
	7.55	3	"		102.2	71	
	8.55	4	"		99	70.4	
	9.55	5	"		97.7	71	

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	Remarks
				Charge # 175		
5/12/09	PM 4.55	0	30	120	78	
	5.55	1	"	116.2	79.5	
	6.55	2	"	113	79.7	
	7.55	3	"	111.7	80	
	8.55	4	"	108	80	
	9.55	5	"	104.5	80	
	10.55	6	"	104.5	79.5	
	11.55	7	"	104	79.5	
				Discharge # 175		
5/13	12.00			142		
				136.2		
				134		
				132.7		
				132.5		
				127		
				125.5		
	1.00	60	1	122.2	105	77
	1.20			120		
	.40	120	"	119.2		
	2.00	120	"	117	105	76
	.20	120	"	115.7		
	.40	120	"	113.7		
	3.00	120	"	110.2	105.7	74.5

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	1362	Remarks
5/13/09	AM 3.20	200	40	106.5			
	.30	210	"	114.2			
	.40	220	"	116.5			
	.45	225	"	119			
	.50	230	"	97.5			— 150
	4.00	240	"	95.7	114.2	74	
	.10	250	"	91.7			
	.20	260	"	84			
	.30	270	"	65			
	.35	275	"	50	111.5	73.5	— 184
				"			
				Charge # 176			
5/13	AM 4.55	0	30		112.5	73.5	
	5.55	1	"		108.5	73	
	6.55	2	"		105	73.5	
	7.55	3	"		102.2	73	
	8.55	4	"		98.2	72	
	9.55	5	"		96.5	71.7	
	10.55	6	"		93.2	71.7	
	11.55	7	"	1.29	92.2	72.5	
							Discharge # 176
5/13	12.00	0	40	1.25			
	.04	4	"	1.335			
	.10	10	"	1.31			
	.20	20	"	1.282			
	.40	40	"	1.245			
	1.00	60	"	1.18			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solc	
5/13/09	1.20	80	40	1.197	96.2	74.7	
	40	100	"	1.18			
	2.00	120	"	1.162	97.	75	
	20	140	"	1.15			
	40	160	"	1.127			
	3.05	185	"	1.095	101.5	77	
	20	200	"	1.06			
	30	210	"	1.03			
	40	220	"	1.00			-146.7.
	50	230	"	.975			
	4.00	240	"	.947	106.2	78.	
	10	250	"	.921			
	20	260	"	.83			
	30	270	"	.169.			
	35	275	"	.150			-183.3.
			Charge # 177				
5/13/09	PM 4.55	0	30		110.5	78.5	
	5.55	1	"		109.	79.	
	6.55	2	"		106.	79.	
	7.55	3	"		104.	79.	
	8.55	4	"		101.5	78.5	
	9.55	5	"		101.	78.	
	10.55	6	"		99.	77.	
	11.55	7	"	1.76	98.5	76.7	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solc	
5/14/09	AM				Discharge 177		
	12.00	0	40	141.7			
	.04	4	"	134.2			
	.10	10	"	131.7			
	.20	20	"	129			
	.40	40	"	125			
	1.00	60	"	122	101	75	
	.20	80	"	120			
	.40	100	"	118			
	2.00	120	"	117	103	75.5	
	.20	140	"	115.5			
	.40	160	"	114			
	3.00	180	"	111	105.5	75	
	.20	200	"	107			
	.30	210	"	105			
	.40	220	"	102			-152.
	.45	225	"	100			
	.50	230	"	99			
	4.00	240	"	96.5	110	75	
	.15	250	"	93			
	.25	260	"	86.2			
	.30	270	"	72			
	.33½	277½	"	50	113	75	-186.3

DATE	TIME	MIN	AMPS	VOLTS	TEMP		
5/14/09	PM						
	3.40	220	40	1.032			
	50	230	"	1.01			
	5.5	237½	"	1.00			— 155.7
	4.00	240	"	.977	116	83	
	10	250	"	.942			
	20	260	"	.882			
	30	270	"	.757			
	38	278	"	.50			— 185.3
				Charge # 179			
5/14/09	PM 4.55	0	30		117.2	83	
"	5.55	1	"		118.7	83.7	
	6.55	2	"		1.162	.837	
	7.55	3	"		1.145	.837	
	8.55	4	"		1.127	83.7	
	9.55	5	"		1.107	84	
	10.55	6	"		110.	84	
	11.55	7	"	173.5	110	135	
				Discharge # 179			
5/15	AM 12.00	0	40	139.7			
	.04	4	"	137			
	.11	10	"	132			
	.21	20	"	129.5			
	.40	40	"	125			

DATE	TIME	MIN	AMPS	VOLTS	TEMP		
				1.15	75.5		
				113.5	76.2		
				110.2	76.5		
				107.7	76		
				109.7	76		
				103.5	76.7		
				103	77.5		
				103.2	78.5		
				Discharge # 178			
5/14/09	12.00	0	40	1.10			
	.08	4	"	1.34			
	.10	10	"	1.322			
	.20	20	"	1.295			
	.40	40	"	1.257			
	1.00	60	"	1.225			
	20	80	"	1.28	102.	80	
	40	100	"	1.19			
	2.00	120	"	1.177	109	81	
	20	140	"	1.16			
	40	160	"	1.142			
	3.00	180	"	1.12			
	30	200	"	1.08			
	50	210	"	1.05	113.5	82.7	

DATE	TIME	MIN.	AMPS	VOLTS 398	TEMP 398	Idle	
5/2/09	AM 1.00	60	40	122.2	126	83.2	
	.20	[illegible]		113.3			
	.40	[illegible]		117.5			
	2.00	120		116	127	83	
	.20	140		114.2			
	.40	[illegible]		112.2			
	3.00	180		[illegible]	127.2	83.	
	.20	[illegible]		[illegible]			
	.40	220		104			
	[illegible]	[illegible]		100.7			-149.6
	[illegible]	[illegible]		97			
	4.00	240		96	113.5	82.5	
	.20	260		95.7			
	.40	[illegible]		92			
	5.00	300		93.7			
	.20	320		90	116.5	81.5	-192.3
5/12	AM			Charge	140		
	4.55	5	29		117	82	
	5.55	1	"		116.5	82	
	6.55	2	"		114	81.5	
	7.55	3	"		110.5	81	
	8.55	4	"		107.5	79.5	
	9.55	5	"		106.2	79.2	
	10.55	6	"		105.7	80.	
	11.55	7	"	117.5	106.5	81	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	
	Start Charge set (66) [illegible] [illegible]					
	Discharge 110					
5/12/09	AM 12.00	0	40	126		
	.20	[illegible]		123		
	.40	[illegible]		121		
	.20	[illegible]		119.7		
	1.40	40	"	117		
	1.00	60	"	116	91.7	81
	.20	80	"	114.5		
	.40	100	"	113.7		
	2.00	120	"	112	99.5	81.2
	.20	140	"	110		
	.40	160	"	107		
	.50	170	"	106.5		
	3.00	180	"	102.5	105.5	79.7
	.10	190	"	101		
	.14	196	"	100		-129.3
	.20	203	"	95		
	.30	210	"	94.5		
	.40	220	"	91.5		
	.50	230	"	90		
	4.00	239	"	87.7	112.7	77
	.05	245	"	80	112.7	-163.3

DATE	TIME	MIN.	AMP.	VOLTS. 37.8	TEMP. 37.8	TEMP. 106	
5/17/09			Charge		182		
	4:00	0			114	78.5	
	5:00	1			110.5	78.2	
	6:00	"			108	78	
	7:00	2	"		105.5	78	
	8:00	"			102.5	77.7	
	9:00	3			100	76.5	
	10:00	4			97.2	75.2	
	11:00	5		1.79	94	74.7	
			Discharge		= 181		
5/17	P.M. 12:00	0	40	1.405			
	:04	4	"	1.302			
	:16	16	"	1.31			
	:20	20	"	1.29			
	:40	40	"	1.25			
	1:00	60	"	1.22	99	74.2	
	:30	80	"	1.197			
	:40	100	"	1.177			
	2:00	120	"	1.162	102	74.5	
	:20	140	"	1.147			
	:40	160	"	1.135			
	3:00	180	"	1.07	103.5	74.2	
	:20	200	"	1.077			
	:30	210	"	1.05			

DATE	TIME	MIN.	AMP.	VOLTS. 37.8	TEMP. 37.8	TEMP. 106	
5/17/09	:40	220	1/0	1.072			
	:48	228	"	100			-152
	:50	230	"	.99			
	4:00	240	"	.957	106	74	
	:10	250	"	.91			
	:20	260	"	.837			
	:30	270	"	.642			
	:33½	273½	"	.50			-182.3
			Charge		182		
5/17	PM 4:55	0	30		1.085	73.2	
	5:55	1	"		109.5	73.2	
	6:55	2	"				
	7:55	3	"		1.035	74	
	8:55	4	"		1.022	74.5	
	9:55	5	"		1.007	75.2	
	10:55	6	"		100.5	75.2	
	11:55	7	"	1.765	101.	75.5	
			Discharge		= 182		
5/18/09	AM 12:00	0	40	1.47			
	:04	4	"	1.347			
	:10	10	"	1.32			
	:20	20	"	1.29			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 398	
5/18/09	AM 12.40	40	40	122.5			
	1.00	60	"	122.2	104	75.7	
	.20	80	"	120			
	.40	100	"	116.5			
	2.00	120	"	117	105.2	75	
	.20	140	"	115.7			
	.40	160	"	114			
	3.00	180	"	111	106	74.2	
	.20	200	"	108			
	.40	220	"	105.5			
	.50	230	"	102.5			
	.53	233	"	100			— 152.
	4.00	240	"	95	109	73.2	
	.10	250	"	92			
	.30	270	"	84			
	.35	275	"	82.5			
	.37	277	"	50	110.5	73	— 183.7
5/19			Charge		113		
	AM 4.55	0	30.		115	73	
	5.55	1	"		110	73	
	6.55	2	"		106.5	73.2	
	7.55	3	"		104.5	73.2	
	8.55	4	"		102	73.6	
	9.55	5	"		100.2	74	
	10.55	6	"		98.7	74.2	
	11.55	7	"	1.777	97.6	75	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 398	
				Discharge			#18 =
	12.00	0	40	1.472			
	.04	4	"	1.342			
	.10	10	"	1.32			
	.20	20	"	1.30			
	.40	40	"	1.267			
	1.00	60	"	1.23	102	75	
	.20	80	"	1.205			
	.40	100	"	1.19			
	2.00	120	"	1.176	105.2	75	
	.20	140	"	1.165			
	.40	160	"	1.142			
	3.00	180	"	1.12	107.2	75	
	.20	200	"	1.085			
	.40	220	"	1.037			
	.50	230	"	1.01			
	.53	233	"	1.000			— 155.3
	4.00	240	"	.977	111.5	75	
	.10	250	"	.94			
	.20	260	"	.88			
	.30	270	"	.72			
	.37	277	"	.50			— 184.7

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP file	
			Charge #				
	PM						
5/12/09	4.55	0	30		118	75.	
	5.55	1	"		113.2	75	
	6.55	2	"		110.7	75	
	7.55	3	"		106.7	75.2	
	8.55	4	"		105	75.2	
	9.55	5	"		103.5	75.5	
	10.55	6	"		102.5	75.7	
	11.55	7	"	17.2	103	75.7	
			Discharge				114
5/13	12.55	8	40	14.2			
	1.55	9	"	13.5			
	2.55	10	"	12.8			
	3.55	11	"	12.7			
	4.55	12	"	12.7			
	1.00	60	"	12.5	115	75.5	
	.20	80	"	120			
	.40	100	"	119			
	2.00	120	"	117.5	106.5	75.5	
	.20	140	"	116.2			
	.40	160	"	114			
	3.00	180	"	112	109	75.5	
	.20	200	"	112.7			
	.30	210	"	112.7			
	.40	220	"	113			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 105.5	
5/14/09	AM 2.50	220	40	100			153.3
	4.00	240	"	96.5	111.5	75.2	
	.10	250	"	97.5			
	.30	270	"	99			
	.35	275	"	80	114	75.2	183.
5/17	AM			Charge		115	
	4.55	10	40		115.2	75.2	
	5.55	1	"		114	75	
	6.55	2	"		109.5	75.5	
	7.55	3	"		105.5	74	
	8.55	4			102.7	73.7	
	9.55	5	"		100.2	73.5	
	10.55	6	"		99.5	73.5	
	11.55	7	"	—	100	74	
				Discharge # 18.5			
5/18	12.00	0	40	1.41			
	04	4	"	1.352			
	10	10	"	1.325			
	20	20	"	1.30			
	40	40	"	1.255			
	1.00	60	"	1.225	103	74	
	20	80	"	120			
	40	100	"	118.2			

DATE	TIME	MIN	AMP	VOLTS 298	TEMP 298	298	Nole
5/19/09	2.00	120	10	1.172	1047	74.5	
	.20	140	"	1.157			
	.40	160	"	1.137			
	3:00	180	"	1.112	1067	75	
	.20	200	"	1.072			
	.40	220	"	1.03			
	.48	228	"	1.00			—152.
	.50	230	"	.992			
	4.00	240	"	.967	1085	75	
	.10	250	"	.912			
	.20	260	"	.847			
	.30	270	"	.632			
	.33	273	"	.150			—182.

Charge 186

5/19/09	PM 4.55	0	80	114.5	74.2		
	5.55	1	"	109.	74.2		
	6.55	2	"	104.5	72.5		
	7.55	3	"	99.7	72.5		
	8.55	4	"	97.7	72		
	9.55	5	"	95.5	71.5		
	10.55	6	"	95	71.5		
	11.55	7	"	100.5	96.5	72	

DATE	TIME	MIN	AMP	VOLTS	TEMP		
5/20/09	PM				2 hrs charge		186
	12.00	0	40	142.5			
	.10	10	"	135			
	.20	20	"	132.2			
	.30	30	"	129.7			
	.40	40	"	127.7			
	1.00	60	"	122.5	100.5	72.5	
	.20	80	"	120.2			
	.40	100	"	119			
	2.00	120	"	117.7	103	73	
	.20	140	"	116.2			
	.40	160	"	115			
	3.00	180	"	112.5	105.5	73	
	.20	200	"	109.5			
	.40	220	"	104			
	.50	230	"	101			
	.55	233	"	100			—155.3
	4.00	240	"	97	108	72.5	
	.10	250	"	94			
	.20	260	"	89			
	.30	270	"	77			
	.37	277	"	50	110	72.5	—185.

DATE	TIME	MIN	AMP	VOLTS	TEMP	
					398 398 Idle	
5/20/09			Charge	#187		
				116	72	
				1112	73	
				109	74	
				105.5	72.5	
				102	72.5	
				99.7	71.7	
				98.8	72	
			1.777	99	73	
			Discharge	#187		
5/20/	1:00	0	40	1.297		
	:10	10	"	1.289		
	:20	20	"	1.285		
	:40	40	"	1.282		
	1:00	60	"	1.232	107.5	74
	:20	80	"	1.202		
	:40	100	"	1.185		
	2:00	120	"	1.172	104	72
	:20	140	"	1.16		
	:40	160	"	1.14		
	3:00	180	"	1.122	105	72.5
	:20	200	"	1.082		
	:40	210	"	1.057		

DATE	TIME	MIN	AMP	VOLTS	TEMP	
					398 398 Idle	
5/20/09	3:40	220	40	1.022		
	:49½	229½	"	1.00		-153
	:50	230	"	.997		
	4:00	240	"	.962/.082	72.5	
	:10	250	"	.92		
	:20	260	"	.85		
	:31	271	"	.63		
	:34	274	"	.50		-182.7

Readings continued in Endurance Book this run # 191
Cell was then removed from the Endurance Section and was run on the testing-board as follows:

				Charge	#192		
5/24/09	AM 6:40	0	30				
	7:10	30	"				
	9:10	150	"				
	11:10	270	"				
	PM 1:10	390	"				
	3:10	510	"		.935	75.7	
	5:10	630	"		.945	76.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Jells	
	PM						
5/24/09	710	750	30		95.5	77	
	910	890	"		94.2	757	
	40	900	"	1.84			-15 lbs.
				Discharge			
5/24	PM 943	—	open	1.597			
	45	0	30	1.502			
	47	2	"	1.422			
	50	5	"	1.39			
	55	10	"	1.37			
	1005	20	"	1.35			
	15	30	"	1.33			
	25	40	"	1.31			
	45	60	"	1.29	93	74.5	
	11.05	80	"	126.2			
	.25	100	"	125			
	AM 45	120	"	123.5	91.5	74	
5/25	12.05	140	"	122			
	.25	160	"	121.5			
	.45	180	"	120.5	90.5	73.7	
	1.05	200	"	119.7			
	.25	220	"	119.5			
	.45	240	"	118.2	92	73.7	
	2.05	260	"	117.5			
	.25	280	"	116.5			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP 1063	
	AM						
5/25/09	2.45	10	30	115.5	93.7	73.7	
	3.05	320	"	114			
	.25	340	"	111.7			
	.45	360	"	110.2			
	4.05	380	"	109	92.2	73	
	.25	400	"	107.5			
	.45	420	"	105			
	5.05	440	"	102.5			
	.25	460	"	100.2			-199.5
	.45	480	"	98.2			
	6.05	500	"	96.2			
	.25	520	"	94.2	94.5	73	wing nearly off
	.45	540	"	92.7			
	7.05	560	"	72			
	.25	580	"	91.2			
	.45	600	"	90	95.5	73	-226.
5/25			Charge			73	
	AM 5.20	0	30	90			
	.50	30	"		99	73	
	6.50	150	"		92.5	73	
	9.50	270	"		99.2	74	
	10.50	390	"		90	76	
	1.50	510	"		94.2	76.7	
	3.50	630	"		99.5	78.5	
	5.50	750	"		99.2	80.2	
	7.50	870	"	1	94	78	
	8.20	900	"	1.85			-15 lbs.

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Selle	
				Discharge # 193			
5/25/09	PM 8.23	—	open	1.59			
	25	0	30	1.50			
	27	2	"	1.42			
	30	5	"	1.39			
	35	10	"	1.372			
	45	20	"	1.347			
	55	30	"	1.327			
	9.05	40	"	1.312			
	25	60	"	1.285	93.7	77.7	
	45	80	"	1.262			
	10.05	100	"	1.25			
	25	120	"	1.237	93.5	77.5	
	45	140	"	1.225			
	11.05	160	"	1.212			
	25	180	"	1.207	94	77	
	45	200	"	1.20			
5/26	12.05	220	"	1.19.5			
	25	240	"	1.19	94.5	77	
	45	260	"	1.17			
	1.05	280	"	1.165			
	25	300	"	1.157	95	76.5	
	45	320	"	1.145			
	2.05	340	"	1.12.2			
	25	360	"	1.10	95	75.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Selle	
5/26/09	AM 2.35	370	30	1.09			
	40	380	"	1.06			
	45	390	"	1.04			
	3.05	400	"	1.015			
	10	410	"	1.00			-202
	15	420	"	.97			
	25	430	"	.945	97.5	76	
	35	440	"	.87			
	45	450	"	.765			
	55	460	"	.575			
	56	461	"	.59	99.2	75.5	-225.5
				Charge # 194			
5/26	AM 4.10	0	30	.54			
				Charge			
	40	30	"		100	75	
	6.05	150	"		97	75.2	
	8.05	270	"		90.7	76.7	
	10.05	390	"		87.7	75.5	
	PM 12.05	510	"		90.2	75.5	
	2.05	630	"		92	75.2	
	4.05	750	"		92.7	74.7	
	6.05	870	"		93.5	74.5	
	7.10	900	"	1.845			-15 hrs
				Discharge # 194			
5/26/09	PM 7.13	—	open	1.597			
	15	0	30	1.51			
	17	2	"	1.472			
	20	5	"	1.47			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP dele	
5/26/09	PM 7.25	10	30	1.37			
	.35	20	"	1.35			
	.45	30	"	1.322			
	.55	40	"	1.31			
	8.15	60	"	1.29	91.2	73.5	
	35	80	"	1.27			
	.55	100	"	1.25			
	9.15	120	"	1.232	91.5	73.5	
	.35	140	"	1.222			
	55	160	"	1.215			
	10.15	180	"	1.21	92.	74.7	
	35	200	"	1.202			
	.55	220	"	1.197			
	11.15	240	"	119	93	76	
	.35	260	"	118			
	.55	280	"	117			
5/27	AM 12.15	300	"	116	94.5	76	
	.35	320	"	115			
	.55	340	"	112.2			
	1.15	360	"	110.5	95.2	76	
	.35	380	"	107			
	.55	400	"	105			
	2.05	420	"	103			
	.25	440	"	100			-205
	.45	460	"	95	97	76	
	.65	480	"	89			
	.85	500	"	76			
	3.05	520	"	65.5			
	.20	535	"	50	99.7	76.5	-227.5

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP dele	
				Connected cell in Endurance Section for 50 runs at 8.35 A.M., 5/27/09. On the first run it will get only 3 1/3 hrs. of charge.			
6/29/09				Cell has now had 50 runs in the Endurance Section, it has stood idle 6 1/2 days and will now have overcharge tests as follows :—			
				Charge "		245	
7/1	AM 2.35	0	30			Charge	
	3.05	30	"		87	78.5	
	5.05	150	"		88	78	
	7.05	270	"		91	78.5	
	9.05	390	"		91	78.2	
	11.05	510	"		94	80.7	
	PM 1.05	630	"		96	81.7	
	3.05	750	"		97	82.7	
	5.05	870	"		98.2	82.2	
	.35	900	"	1.625			-15 hrs
7/6/09	7.07			Discharge			-245-
	8.13	—	Cha	1.57	84	81.7	
	.40	0	36	149			

DATE	TIME	MIN	AMPS	VOLTS	TEMP 398	TEMP 398	TEMP dbb	
7/6/09	PM 12.42	2	30	1417				
	.42	5	"	1350				
	.50	10	"	1319				
	6.00	20	"	132				
	.10	30	"	1317				
	.20	40	"	1302				
	.40	60	"	1277	91	80		
	7.00	80	"	1257				
	.30	120	"	123				
	.40	130	"	122	90	787		
	8.00	140	"	1216				
	.30	160	"	120				
	9.40	180	"	120	91	79		
	9.00	200	"	1195				
	30	220	"	118				
	40	240	"	117	92	79		
	10.00	260	"	116				
	.30	280	"	1145				
	40	300	"	1125	925	78		
	11.00	320	"	109				
	.20	340	"	105.5				
	.30	350	"	102.7				
	.40	360	"	101	99	75		
	.45	365	"	100				— 182.5
7/7	12.00	370	"	95				
	.10	380	"	93				
	.20	390	"	91.5				
	.30	400	"	90.2				
		410	"	79				

DATE	TIME	MIN	AMPS	VOLTS	TEMP 398	TEMP 106	
7/7/09	AM 12.40	420	30	54			
	.41	421½	"	50	101.5	77.7	— 210.7
7/7			Charge			24	
	AM 1.25	0	30				on Charge
	.55	30	"		100.7	78	
	3.55	150	"		97.7	79.7	
	5.55	270	"		95	80.5	
	7.55	390	"		95	80	
	9.55	510	"		97	78.2	
	11.55	630	"		98.2	78.5	
	PM 2.20	775	"		100.5	80	
	3.55	870	"		101.5	84.7	
	4.25	900	"	1535			— 15 hrs.
			Discharge #24.c				
7/7/09	PM 3.38	—	0	158			
	30	0	30	148	101.7	81	
	32	2	"	141			
	35	5	"	138			
	40	10	"	1362			
	50	20	"	135			
	500	30	"	132			

DATE	TIME	MIN	AMP	VOLTS 39.8	TEMP 39.8	39.8	
7/7/09	PM 5.10	40	30	120			
	30	60	"	1225	101	81	
	50	80	"	1222			
	610	100	"	1.24			
	30	120	"	1222	100	82	
	50	140	"	1217			
	710	160	"	1215			
	30	180	"	1200	100	82	
	50	200	"	120			
	810	220	"	119			
	30	240	"	118	101	82	
	50	260	"	117			
	910	280	"	116			
	30	300	"	1127	102	822	
	50	320	"	112			
	1010	340	"	109			
	30	360	"	104	1025		
	40	370	"	100			—185.
	50	380	"	96			
	11.00	390	"	88			
	10	400	"	75			
	12/7	409/2	"	50	106	81	—204.7

DATE	TIME	MIN	AMP	VOLT 39.8	TEMPS 39.8	102.5	
7/7/09	AM	charge			247		
	12.05	0	30		on Charge		
	.35	30	"		103	80.2	
	2.35	150	"		96.2	79	
	4.35	270	"		94	78.2	
	6.35	390	"	"	93	77.5	
	8.35	510	"		97	77.7	
	10.35	630	"		102	79.7	
	PM 12.35	750	"		103.7	82.05	
	2.35	870	"		106	84.7	
	3.05	900	"	181			—15 hrs
	PM		Discharge		247		
7/8/09	3.08	—	fin	1.08	106	84.2	
	.10	0	30	1.48			
	.12	2	"	1.41			
	.15	5	"	1.385			
	.20	10	"	1.365			
	.30	20	"	1.34			
	.40	30	"	1.325			
	.50	40	"	1.30			
	4.10	60	"	1.272	107	84.2	
	.30	80	"	1.257			
	.50	100	"	1.24			
	5.10	120	"	1.225	102	83	

DATE	TIME	MINUTES	AMPS	VOLTS 398	TEMP 398	Bdle	
7/8/09	PM 5.00	140	30	121			
	50	160	"	120.7			
	6.10	180	"	120	102	82.5	
	30	200	"	120			
	50	220	"	118			
	7.10	240	"	118	108.5	88	
	30	260	"	117			
	50	280	"	116			
	8.10	300	"	114	107	88	
	30	320	"	112			
	50	340	"	109			
	9.10	360	"	103.7	109	88	
	20	370	"	100			-185.
	30	380		95.5			
	40	390	"	86			
	50	400	"	72			
	59	409	"	50			-204.5

DATE	TIME	MINUTES	AMPS	VOLTS 398	TEMP 398	Bdle	
			Charge		48		
7/9/09	PM 12.00	0	30		104	86	
	1.00	60	"		102	84.5	
	2.00	120	"		98	83	
	3.00	180	"		93.7	82	
	4.00	240	"		93	81	
	5.00	300	"		91	79.7	
	6.00	360	"	111	91	78.5	-7 hrs
			Discharge		248		
7/9	AM 6.00	-	30	158			
	.05	0	30	142			
	.07	2	"	141			
	.10	5	"	138			
	.15	10	"	135.7			
	.25	20	"	133.7			
	.35	30	"	130.7			
	.45	40	"	130			
	7.05	60	"	127.5	91.7	77.5	
	.25	80	"	125			
	.45	100	"	123.5			
	8.05	120	"	122	92.2	77.5	
	.25	140	"	121.5			
	.45	160	"	120.7			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. dble	
7/7/09	9.05 A.M.	180	30	1.20	93.2	77.5	
	.20	200	"	1.192			
	.15	220	"	1.192			
	10.05	240	"	1.17	94.5	77.5	
	.25	260	"	1.152			
	.45	280	"	1.13			
	11.05	300	"	1.09	96.7	77.7	
	16	311	"	1.055			
	.25	320	"	1.07			
	.32	327	"	1.00	97.5	78	—163.5
7/7/09	9.17 A.M.	charge		7.49			
	1.50	0	30	1.47	90.5	78.5	
	52	2	"	1.53			
	55	5	"	1.54			
	12.00 P.M.	10	"	1.52			
	.10	20	"	1.592			
	.20	30	"	1.61			
	.30	40	"	1.620			
	.50	60	"	1.637	97.2	80	
	1.10	80	"	1.645			
	.30	100	"	1.642			
	.50	120	"	1.65	96	81	
	2.10	140	"	1.65			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP dble	
7/7/09	2.30 P.M.	160	30	1.652			
	50	180		1.657	95.5	81.2	
	3.10	200		1.662			
	30	220		1.672			
	50	240		1.687	90.	81.2	
	4.10	260		1.697			
	30	280		1.72			
	50	300		1.74	90.5	81.2	
	5.10	320		1.775			
	30	340		1.80			
	50	360		1.802	90.2	80	
	6.10	380		1.83			
	30	400		1.835			
	50	420		1.84	90	.19	—7 hrs.
				Discharge 7.49			
7/8/09	P.M. 1.33	—	0	159			
	35	0	30	149			
	37	2	"	142			
	2.00	5	"	139			
	05	10	"	136			
	15	20	"	1.337			
	25	30	"	132			
	35	40	"	130			
	55	60	"	1.27	89	78	

DATE	TIME	MIN	AMP	VOLTS 3.95	TE 85.1	MP 7.11	
7/9/09	AM 6 15	56	30	1242			
	35	100	"	1235			
	55	120	"	122	85	77	
	9 15	140	"	1215			
	35	160	"	120			
	55	180	"	120	90.5	76	
	10 15	200	"	117			
	35	220	"	118			
	55	240	"	1165	91	76	
	11 15	260	"	115			
	35	280	"	112			
	55	300	"	119	92	75	
7/11	AM 12 1	22	"	125			
	25	320	"	121			
	45	340	"	120	92.2	75	-166.5
7/10	AM	Change		"	250		
	1 05	0	30	149	92.2	75	
	07	2	"	154.5			
	10	5	"	155.7			
	15	10	"	157.7			
	25	20	"	160.2			
	35	30	"	162			
	45	40	"	164			
	2 05	60	"	165	92	75	

DATE	TIME	MIN	AMP	VOLTS 3.98	TE 89.6	MP 7.11	
7/10/09	AM 2 25	80	30	166			
	45	100	"	166			
	3 05	120	"	166	90.5	75	
	25	140	"	166			
	45	160	"	166			
	4 05	180	"	167	89	75	
	25	200	"	167.5			
	45	220	"	167			
	5 05	240	"	169.7	88.5	75	
	25	260	"	171			
	45	280	"	173			
	6 05	300	"	175	88	75	
	25	320	"	177			
	45	340	"	182			
	7 05	360	"	1827	87.5	75.2	
	25	380	"	184			
	45	400	"	1852			
	8 05	420	"	1857	89	75	-7 hrs
7/10/09	P.M.			Die Change			±250
	8 05	-	30	1597			
	10	0	30	149			
	12	2	"	149.7			
	15	5	"	1592			
	20	10	"	1597			

DATE	TIME	AMP.	AMP.	VOLTS 355	T 351	T.M.P. 351	
7/10/07	AM 8.30	1.20	2	1.24			
	40	80	"	133			
	50	90	"	130			
	9.10	60	"	1.27	88	232	
	30	80	"	1.200			
	5	100	"	1.235			
	10	120	"	1.225	88	24	
	30	140	"	1.215			
	50	160	"	1.207			
	1110	180	"	1.20	877	74.7	
	30	200	"	1.192			
	50	22		1.18			
	12.10 PM	940		1.165	91	76	
	30	960		1.147			
	50	980	"	1.135			
	1.10	300	"	169	94	77	
	30	320	"	104			
	40	330	"	1007	96	77	
	41	331	"	100			-165.5

DATE	TIME	AMP.	AMP.	VOLTS 355	T.M.P. 355	T.M.P. Volt.
		July 12, 1909.				
		Cell started 44 hours over S. making				
		The electrolyte was then poured out,				
		after first adding H_2O to proper height and				
		shaking cell up. (See analysis of electrolyte				
		in back of book.)				
		Cell was then given six rinsings				
		with 2% KOH (500 cc), - being well shaken				
		each time, to remove sediment.				
		It was then filled to proper height				
		with 2% KOH containing 30 grams				
		of SiOH per liter, - taking just 1000 cc.				
		Will now run regularly on board:				
		Charge = 251.				
7/12/07	AM 1220	0	30		Charge	
	50	30	"		83	81
	PM 150	150	"		895	83
	350	270	"		✓	
	450	390	"		957	86
	550	510	"		977	862
	850	630	"		1.035	87
	1030	750	"		104	862
7/13	AM 1250	876	"		102	87.7
	120	900	"	1.797			=15 hrs.

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP	
7/13/67	AM			Discharge		#251	
	1.20			158			
				149			
				147			
				137			
				135			
				132			
				128	97	82.5	
				126.2			
				124			
				123.5	97.7	82	
				122			
				121.5			
				122.5	97.5	82.2	
				121			
				116			
				117.7	97	82	
				115.5			
				115.5			
				114.5	96.5	81.7	
				112			
				110.5			
				109	96	81	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 102.5	
7/13/67	AM 7.35	370	30	104.5			
	45	380	"	102.5			
	55	389	"	100			
	8:05	400	"	95			-10.5
	15	410	"	89			
	25	420	"	84	99.7	81.2	
	35	430	"	70			
	42	437	"	50	102	81.2	-21.5
7/13/67	AM 9.16	0	Charge	#252			
	40	30	30		104	83	
	11.40 PM	150	"		100	85	
	1 40	271	"		98.5	87.2	
	3 40	398	"		100.5	89	
	5 40	516	"		104.7	90.2	
	7 40	630	"		107	90.7	
	9:40	750	"		108	89	
	11:46 AM	876	"		105.5	87	
7/14	12:10	900	"	100			-15 hrs.
7/14/67	AM			Discharge		#252	
	1.13			149			
	1.45	0	30	149			
	47	2	"	141			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 399	TEMP Gille	
7/14/09	12:20	5	25	136.5			
	.25	10	"	137			
	.35	20	"	137			
	.45	30	"	132.2			
	.55	40	"	132.5			
	1.15	50	"	127.2	104	87	
	.35	80	"	126.2			
	.55	100	"	127.2			
	2.15	120	"	127.5	102	87	
	.35	140	"	127.5			
	.55	160	"	127.5			
	3.15	180	"	127.7	103	87	
	.35	200	"	127			
	.55	220	"	115.5			
	4.15	240	"	117	102.2	86.5	
	.35	260	"	117			
	.55	280	"	116			
	5.15	300	"	114.5	102.5	82.2	
	.35	320	"	103.7			
	.55	340	"	111			
	6.15	360	"	104	105.2	86	
	.35	380	"	105			
	.45	390	"	107.7			-198
	.51	396	"	100			
	.55	400	"	92			
	7.05	410	"	93.7			
	.15	420	"	93.7	104.5	81	
	.35	430	"	50			
	.55	450	"	50	105.5	81	-215.7

DATE	TIME	MIN	AMPS	VOLTS 396	TEMP 399	TEMP 1045	
7/14/09			Charge			.25	
	AM 7.55	0	30		106	Charge	
	8.25	30	"		107	85.7	
	10.25	150	"		101.5	86	
	P.M. 2.25	270	"		99	86.7	
	2.25	390	"		100.5	88.5	
	4.25	510	"		104.5	90	
	6.25	630	"		102	88.7	
	8.25	750	"		104.7	88	
	10.25	870	"		106	88	
	.55	910	"	1.797			-15 lbs.
					103.3		
7/14/09	P.M.			Discharge			.252
	10.55	—	Ohm	1.562	105	88	
	1.00	0	30	1.477			
	.02	2	"	1.412			
	.05	5	"	1.38			
	.10	10	"	1.36			
	.20	20	"	134			
	.30	30	"	131.7			
	.40	40	"	130			
7/15	AM 2.00	60	"	127.7	104.5	87	
	.20	80	"	125.7			
	.40	100	"	124			
	1.00	120	"	123	102.5	Pour	

DATE	TIME	MIN	AMP	VOLTS	TEMP		
				30.1	31.5	110.7	
7/15/17	1.20			122			
	.40			121			
	2.00	15		120.2	102	86.5	
	.20			120			
	.40	225		119			
	3.00	270		118	104	86.5	
	.20	255		117			
	.40	210		116			
	4.00	300		114.5	104	85.5	
	.20	315		113.5			
	.40	330		111			
	5.00	360		112	104.5	85	
	.20	30		108.5			
	.40	330		104.2			
	.50	390		102.2			
	.50½	390½		100			-109.2
	.40	400		97.2			
	.50	410		97.2			
	6.00	420		81	107	84.5	
	.10	430		55			
	.11	431		50			-215.5

DATE	TIME	MIN	AMP	VOLTS	TEMP		
7/15/17	AM	Discharge			254		
	6.55	0	20		103	84.5	
	7.55	60			103	84.5	
	8.55	120			101	85	
	9.55	180			100	85.5	
	10.55	240			98	86	
	11.55	300			97	86.5	
	12.55	360			98	87	
	1.55	420		1.755	99	87.5	-7 hrs.
				Discharge #354			
7/16/17	PM 1.56	—	open	1.56			
	2.00	0		90	1.47		
	02	2			1.465		
	05	5			1.38		
	10	10			1.36		
	20	20			1.335		
	30	30			1.315		
	40	40			1.30		
	3.00	60			1.265	99.5	89.5
	20	80			1.257		
	40	100			123		
	4.00	120			122	100	88.5
	20	140			1.217		
	40	160			120		

DATE	TIME	MIN.	[illegible]	VOLTS	TEMP. 958	TEMP. 988	
7/14/09	PM 5:00	180	[illegible]	120	99	85	
	30	200	"	1.19			
	40	220	"	1.177			
	6:00	240	"	1.162	99.5	87	
	20	260	"	1.145			
	40	280	"	1.12			
	50	290	"	1.102			
	7:00	300	"	1.082	100	86	
	1.03/2	303/2		1.076			
				[illegible]			
	11	310	"	1.06			
	21	320	"	1.035			
	28	327	"	1.00	99.7	[illegible]	-163.5
7/15/09	PM.			[illegible]			
	7:00	0	30	1.162	98.7	85	
	50	2	"	1.152			
	55	5	"	1.122			
	8:00	10	"	1.047			
	10	20	"	1.08			
	20	30	"	1.60			
	30	40	"	1.612			
	50	60	"	1.63	98.5	84.7	

DATE	TIME	MIN.	[illegible]	VOLTS 958	TEMP. 988	TEMP. 988	
7/14/09	PM 9:10	80	30	1.64			
	30	100	"	1.64			
	50	120	"	1.635	97	84.7	
	10:10	140	"	1.635			
	30	160	"	1.64			
	50	180	"	1.64	97	86	
	11:10	200	"	1.64			
	30	220	"	1.65			
	50	240	"	1.57	97.7	86	
7/15	AM 12:10	260	"	1.57			
	30	280	"	1.65			
	50	300	"	1.72	97	86.5	
	1:10	320	"	1.72			
	30	340	"	1.74			
	50	360	"	1.76	98.2	87	
	2:10	380	"	1.77			
	30	400	"	1.75			
	50	420	"	1.75	100	87.5	— 7 hrs.
							D. inches + 255
7/16	AM 2:55	—	9	1.56			
	55	0	30	1.48			
	57	2	"	1.43			
	3:00	5	"	1.38			
	05	10	"	1.36			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS		
				394	394	102.5	
7/4/[illegible]	[illegible]	[illegible]	[illegible]	133.5			
	.15	[illegible]		131.5			
	.25	[illegible]		133			
	.35	60		127.7	131	87.5	
	4.05	80	"	125			
	.15	100	"	124			
	.25	120	"	122.5	120.5	87	
	5.05	140	"	121.5			
	.25	160	"	121			
	.35	180	"	120.5	120.2	86.2	
	6.05	200	"	120			
	.15	220	"	119			
	.25	240	"	118	120	86	
	7.05	260	"	119			
	.15	280	"	119			
	.25	300	"	110.5	995	847	
	8.05	310	"	108			
	15	320	"	1065			
				Commutator 1 Minute			
	.26	330	"	104			
	.36	340	"	1005			
	.37	341	"	1.00	99	84.7	170.5

DATE	TIME	MIN	AMPS	VOLTS	TEMP	
				394	394	Stile
				Charge 256		
1/6/07	AM 8.45	0	30	1.42	102.5	84.7
	.47	2	"	1.49		
	.50	5	"	1.51		
	.55	10	"	153	"	
	9.05	20	"	1.565		
	.15	30	"	159		
	.25	40	"	1615		
	.45	60	"	163	101	855
	10.05	80	"	164		
	25	100	"	1600		
	45	120	"	1642	985	85
	11.05	140	"	164		
	25	160	"	164		
	45	180	"	164	965	855
	PM 12.05	200	"	1645		
	25	220	"	1655		
	45	240	"	1665	96	86
	1.05	260	"	1665		
	25	280	"	168		
	45	300	"	170	967	862
	2.05	320	"	1722		
	25	340	"	1742		
	45	360	"	1767	985	865
	3.05	380	"	1.797		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
7/14/09	PM 325	400	30	1.407			
	.45	420	"	1.407	95.5	85	-7 hrs
				Disch.	1.391	256	
7/14/09	PM 9.48	—	Open	1.57			
	.50	0	0.0	1.497			
	.51	2	"	1.417			
	.55	5	"	1.39			
	4.00	10	"	1.367			
	10	20	"	1.337			
	.20	30	"	1317			
	.30	40	"	130			
	.50	60	"	127	94.5	84	
	5.10	80	"	1255			
	.30	100	"	124			
	.50	120	"	122	94	83.7	
	6.10	140	"	1215			
	.30	160	"	1207			
	.50	180	"	120	93.5	83.2	
	7.10	200	"	1187			
	.30	220	"	118			
	.50	240	"	1167	92.7	81.5	
	8.10	260	"	1155			
	.30	280	"	1132			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
7/14/09	PM 8.40	290	30	1.12			
	.50	300	"	1.102	94.7	81.2	
	9.00	310	"	1087			
	.10	320	"	1065			
	.17	327	"	1.06			
				Charge off 1 hr			
	.21	330	"	1.05			
	.31	340	"	1.022			
	.39	348	"	1.00	94.5	82	-17.4
7/16/09	AM			Charge 257			
	9.45	0	30	1.45	94.7	82	
	.47	2	"	1.492			
	10.00	15	"	1.41			
	.05	20	"	1.535			
	.15	30	"	1.575			
	.25	30	"	1.595			
	.35	40	"	1.615			
	11.05	60	"	1.645	94.7	81	
	11.45	80	"	1.64			
	.25	100	"	1.64			
	.45	120	"	1.637	94	81.7	
7/17	AM 12.15	140	"	1.637			
	.35	160	"	1.637			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS		
				39	22	10	
7/7/11	12 55 AM	10	20	164	94.5	83	
	1.15	20	"	164.2			
	.25	30	"	165			
	.35	40	"	165.7	93.2	83	
	2.15	60	"	166.2			
	.35	80	"	167.5			
	.55	100	"	169.5	93.5	83.2	
	3.15	120	"	171.5			
	.35	140	"	174			
	.55	160	"	177	94.2	83	
	4.15	180	"	179.5			
	.35	200	"	181			
	.55	220	"	182	95.2	82.5	-7 hrs.
				Dis-charge			287
7/17	4.50 AM	—	0/hr	158			
	5.00	5	20	150			
	.02	2	"	142			
	.05	5	"	139.7			
	.15	10	"	137.5			
	.20	20	"	135.7			
	.30	30	"	133.5			
	.40	40	"	131.7			
	6.00	60	"	128	95.5	82	
	.20	80	"	126			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS		
				39	22	10	
7/17/11	6.40 AM	100	20	124.2			
	7.00	120	"	123	95.5	82	
	.20	140	"	122			
	.40	160	"	121.5			
	8.00	180	"	120.5	98	83	
	.20	200	"	120			
	.40	220	"	119.7			
	9.00	240	"	118	97	83	
	.20	260	"	116.5			
	.40	280	"	115.5			
	10.00	300	"	115	99	83.5	
	.10	310	"	110			
	.20	320	"	108.2			
	.30	330	"	106			
	.40	340	"	104			
	.50	350	"	102.5			
	.57	357	"	100			-178.5
	11.00	360	"	98	102	83.7	
	.10	370	"	94			
	.20	380	"	87			
	.30	390	"	74			
	.37	397	"	50	104.7	84.2	-198.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Bolle	
7/19/09	Cell will now run in Endurance						
	Section for 25 runs						
	See results in The Endurance Book						
8/7/09	Cell has now had 25 Endurance Runs						
	it then stood idle 6½ days and						
	will now run as follows:-						
			Charge # 283				
8/10	AM 3:15	0	30		on Charge		
	4:45	30	"		89.5	90	
	5:45	150	"		91	87.5	
	6:45	270	"		91.5	87.5	
	9:45	570	"		97	87	
	11:45	510	"		100	88	
	PM 1:45	630	"		102	88.5	
	3:45	750	"		102.5	89.2	
	5:45	870	"		105	89.5	
	6:15	910	"	177			-15 hrs
				Discharge # 283			
8/10/09	PM 6:18	—		0/min 1562			
	30	0	30	147	102.5	89.5	
	32	2	"	140			
	35	6	"	135			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. 1025	
8/10/09	PM 6:36	10	30	1265			
	40	20	"	1242			
	50	30	"	1223			
	7:00	40	"	1202			
	20	60	"	176	103	89	
	40	80	"	124			
	8:00	100	"	124			
	20	120	"	122	102	89	
	40	140	"	120			
	9:00	160	"	1197			
	20	180	"	1197	100.5	88	
	40	200	"	1195			
	10:00	220	"	118			
	20	240	"	1175	100	87	
	40	260	"	116.5			
	11:00	280	"	1057			
	20	300	"	1125	100.2	85.5	
	30	310	"	113			
	11:40	320	"	112			
	50	330	"	111			
8/11	12:00	390	"	110			
	10	340	"	109			
	20	350	"	108	100.2	84	
	30	360	"	107			
	40	370	"	107			
	50	380	"	107			-191.7
	1:00	390	"	107			
	10	400	"	97.7			
	20	410	"	87			
	30	420	"	69	103	82	
	35	425	"	50			-212.5

DATE	TIME	MIN	AMP	VOLTS	TEMP 3/4	TEMP 3/4 IDLE	
8/10/09	AM			Charge		284	
	2.00	15	20	on	Charge		
	.30	30	"		79	80.7	
	4.30	150	"		92.5	79	
	6.30	270	"		[illegible]	77	
	8.30	390	"		88	77	
	10.30	510	"		92.4	77	
	12.30	630	"		96.2	78.2	
	2.30	750	"		100	81	
	4.30	870	"		103.2	83.2	
	6.00	960	"	180			-15 hrs
8/11/09	7 AM			Discharge			284
	8.02	—		157			
	.04	0	30	141	100	83.7	
	.07	2	"	142			
	.10	5	"	1333			
	.14	10	"	132			
	.24	20	"	1325			
	.34	30	"	133			
	.44	40	"	131			
	6.04	60	"	126	102.5	84.2	
	24	80	"	126			
	.44	100	"	1345			
	7.04	120	"	1230	102	85	

DATE	TIME	MIN	AMP	VOLTS	TEMP 3/4	TEMP 3/4 IDLE	
	PM.						
8/11/09	7.24	140	30	122			
	44	160	"	121	101		
	8.04	180	"	120	101	84	
	.24	200	"	120			
	.44	220	"	118.5			
	9.04	240	"	118	100	83.5	
	.24	260	"	116.5			
	.44	280	"	116			
	10.04	300	"	114.1	98	81.5	
	.24	320	"	112			
	.44	340	"	109.2			
	.54	350	"	107.2			
	11.24	360	"	104.5	97.2	79	
	.24	370	"	102			
	.32	377	"	100			-188.5
	.34	380	"	98			
	.39	385	"	95.7			
	.34	392	"	94.7			
	.44	400	"	92			
	.54	410	"	92.2			
8/12	12.06	421	"	50	101	79.7	-210.5
8/12	AM			Charge		245	
	12.42	0	30	on	Charge		
	1.10	30	"		96.5	77.7	
	3.10	150	"		90.5	77	
	5.10	270	"		88.5	77	
	7.10	390	"		88.5	77	
	9.10	510	"		96.5	77	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	Delta	
	AM						
8/12/09	11.10	630	30		93	77.7	
	PM 1.10	750	"		92.5	78.3	
	3.10	870	"		75	81	
	.40	900	"	1015			-15 hrs.
8/13/09	PM.		Discharge = 28				
	3.43	—	fin	1077			
	.45	0	30	156	99	81.5	
	.47	2	"	142			
	.50	5	"	109			
	.55	10	"	127			
	4.00	20	"	131.5			
	.10	30	"	132			
	.20	40	"	131			
	.40	60	"	125	98.5	82	
	5.00	80	"	122			
	.20	100	"	124			
	.40	120	"	123	96.5	81.5	
	6.00	140	"	122			
	.20	160	"	121			
	.40	180	"	120.2	96	81	
	7.00	200	"	120			
	.20	220	"	119			
	.40	240	"	118	94	80	
	8.00	280	"	116.5			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Delta	
8/13/09	PM 8.20	280	20	155			
	.40	300	"	118	94	78.5	
	9.00	320	"	112			
	.15	335	"	111			
	.25	345	"	105.5			
	.35	355	"	101			
	.45	365	"	104	96	78	
	.55	375	"	102			
	10.00	380	"	100			-188.
	10.05	385	"	98			
	.15	395	"	92			
				lowered off 1 min			
	.26	406	"	88			
				lowered off 1 min			
	.37	410	"	78			
	.41	420	"	58			
	.43	421	"	58			
	.44	423	"		100	78	-210.5
8/12	pm		charge		24		
	11.30	0	35		75.5	75.5	
	AM						
8/13	12.30	60	—		96	75.5	
	1.30	120	"		92.7	78	
	2.30	180	"		92	78	
	3.30	240	"		90.5	77.7	
	4.30	300	"		89.5	80	

DATE	TIME	MIN	AMP.	VOLT.	TEMP. 398	TEMP. 398	
8/13/09	AM 6:30	362	30		79.2	77.5	
	6:30	420	"	179	90	77.5	- 7 hrs
				Discharge			216
8/13	AM 2:33	-	open	157			
	:35	0	"	149			
	:37	2	"	141			
	:40	5	"	132.2			
	:45	10	"	124.2			
	:55	20	"	122.7			
	7:00	30	"	131.7			
	:15	45	"	130			
	:30	60	"	127	90.7	77.7	
	:50	80	"	125			
	8:10	100	"	122.5			
	:30	120	"	122	91.2	78.2	
	:50	140	"	121.5			
	9:10	160	"	120.5			
	:30	180	"	119.7	92.2	78.5	
	:50	200	"	118.7			
	10:10	220	"	117			
	:30	240	"	116.2	93.5	78.2	
	:50	260	"	114.2			
	11:10	280	"	111			

DATE	TIME	MIN	AMP.	VOLT.	TEMP. 398	TEMP. 398	
8/13/09	AM.			Charge		Off 2 min	
	11:27	270	30	108			
				Charge		Off 1 min	
	:38	300	"	106			
	:48	310	"	102.7			
	7/43	316	"	100	92.7	78.2	- 15.8.2
8/13/09	PM.			Charge		287	
	12:00	0	30	140.2	93.5	78.2	
	:02	2	"	145			
	:05	5	"	150			
	:10	10	"	155.7			
	:20	20	"	158			
	:30	30	"	160			
	:40	40	"	162			
	1:00	60	"	163.7	90.5	77	
	:20	80	"	164.5			
	:40	100	"	164.5			
	2:00	120	"	164.2	90.2	77.7	
	:20	140	"	164.5			
	:40	160	"	164.5			
	3:00	180	"	164.5	91.5	78.5	
	:20	200	"	164			

DATE	TIME	MIN	AMP	VOLTS	TEMP 398	TEMP 388	TEMP Solder	
8/13/09	P.M. 3:40	220	30	166				
	4:00	240	"	1622	89	77		
	.20	260	"	169				
	.40	280	"	1765				
	5:00	300	"	1775	912	80		
	.20	320	"	1785				
	.40	340	"	178				
	6:00	360	"	180	924	812		
	.20	380	"	180				
	.40	400	"	181				
	7:00	420	"	181	94	81		—Plus
				Discharge" 287				
8/13/09	P.M. 1:03	—	0	0	148			
	05	0	50	148				
	07	2	4	142				
	10	5	4	1395				
	15	10	"	137				
	25	20	"	1345				
	35	30	"	132				
	45	40	"	130				
	8:05	60	"	126	96	825		
	25	80	"	126				
	45	100	"	124				
	9:05	120	"	1237	92	83		

DATE	TIME	MIN	AMP	VOLTS	TEMP 398	TEMP 388	TEMP 1066	
8/13/09	P.M. 7:25	140	30	122				
	45	160	"	1215				
	10:05	180	"	120	96	83		
	25	200	"	119				
	45	220	"	1182				
	11:05	240	"	117	97	83		
	.25	260	"	1157				
	45	280	"	112.5				
	12:55	290	"	111				
8/14	A.M. 12:05	300	"	119	98	82.5		
				Current off 2 min				
	.17	310	"	102.5				
	.27	320	"	102.2				
	.37	330	"	102				
	.47	335½	"	100	95.5	82.5		—167.7
				Charge 2 hr				
8/14	A.M. 12:55	0	20	152	99	82.5		
	.57	2	"	150				
	1:00	5	"	151.5				
	.05	10	"	153.7				
	.15	20	"	157				
	.25	30	"	158.5				
	.45	45	"	1602				

DATE	TIME	MIN	AMPS	VOLTS 391	393	1063	TEMPS	
8/1/09	AM 8.10	10	30	1372				
	.20	20	"	1345				
	.30	30	"	1322				
	.40	40	"	1301				
	9.00	60	"	1278	94	77	92	
	.20	80	"	1256				
	.40	100	"	1242				
	10.00	120	"	1223	94	77	92	
	.20	140	"	1222				
	.40	160	"	1215				
	11.00	180	"	1205	95	77		
	.20	200	"	1195				
	.40	220	"	118				
	PM 12.00	240	"	117	95	77		
	20	260	"	1155				
	40	280	"	1135				
	50	290	"	1105				
	100	300	"	1085	95	77		
				resumed after 1 min				
	11.	314	"	106				
	21	320	"	1067				
	31	330	"	1063	96	77		-165.

Stood idle 5½ hours over Saturday and Sunday.

DATE	TIME	MIN	AMPS	VOLTS 391	393	1063	TEMPS	
7/31	AM 11.45	60	30	1172	94	82.2		
	2.15	90	"	1163				
	.35	110	"	1163				
	.55	130	"	1162	95	82		
	3.15	150	"	1163				
	.35	170	"	1161				
	.55	190	"	1164	95	82.2		
	4.15	210	"	1162				
	.35	230	"	1162				
	.55	250	"	1162	97	82.7		
	5.15	270	"	1162				
	.35	290	"	1172				
	.55	310	"	1172	95	80		
	6.15	330	"	1172				
	.35	350	"	1171				
	.55	370	"	1171	92	77.5		
	7.15	390	"	1171				
	.35	410	"	1172.5				
	.55	430	"	1172.5	94	79.2		-7 hrs
				Discharge			28.8	
8/14	AM 7.11	—	30	1577				
	8.00	0	30	1.50				
	.02	2	"	1.41				
	.05	5	"	1572				

DATE	TIME	MIN	AMP.	VOLTS 398	TEMP 398	Volts	
8/16/09	Cell will now run in the Endurance-Section for 18 runs. See results in the Endurance Book						
	Cell has now had 18 Endurance Runs and will now run as follows:-						
			Charge	30.7			
8/27/09	AM 4.55	0	30		1.23	81.2	Charged in Endurance
	5.55	60	"		1.17	81.2	
	6.55	120	"		1.12	81.2	
	7.55	180	"		1.10	81.7	
	8.55	240	"		108	82.	
	9.55	300	"		105	82.7	
	10.55	360	"		105	83	
	11.55	420	"		1055	83.5	
	PM 1255	480	"		105	84.5	
	1.55	540	"		1.06	85.6	
	255	600	"		1.06	87	
	3.55	660	"		1055	87.2	
	455	720	"		1087	88.2	Charged in Battery Found.
	5.55	780	"		1087	88.5	
	6.55	840	"		108	88.5	
	7.55	900	"	1.085	1.		

DATE	TIME	MIN	AMPS	VOLTS 955	TEMP 398	1015
			Discharge #307			
8/27/09	PM 7.58	–	40	156		
	8.00	0	30	146	107	.985
	02	2	"	1.395		
	05	5	"	107		
	10	10	"	1.355		
	20	20	"	133		
	30	30	"	132		
	40	40	"	130		
	9.00	60	"	1.265	1.06	.985
	20	80	"	1.257		
	40	100	"	1.245		
	10.00	120	"	1.23	1.01	.88
	20	140	"	1.22		
	40	160	"	1.215		
	11.00	180	"	1.20	1.005	.207
	20	200	"	1.195		
	40	220	"	1.187		
8/28/09	AM 12.00	240	"	1.177	1.000	.881
	20	260	"	1.165		
	40	280	"	1.152		
	1.00	300	"	1.124	1.000	.850
	20	320	"	1.10		
	40	340	"	1.042		
	50	350	"	1.018		

DATE	TIME	MINUTES			TOTAL 358	TOTAL 358	MILES	
8/28/07	A.M. 1	63½	30		1.00			-176.7
	2.00	360			.572	1.06	872	
	.10	370			.707			
	.20	380			.782			
	.28	388			.80	1.07	872	-194.

Stopped Idle 47 hours over Saturday and Sunday

Changed 358

8/28/07	A.M. 1.00	0	36		0.00	0.00	0.00	
	1.00	90	"		.855	.85		
	3.00	150	"		.87	.81		
	5.00	270	"		.87	.80		
	7.00	330	"		.90	.78		
	9.00	510	"		9.02	762		
	11.00	630	"		9.1.	757		
	P.M. 1.00	750	"		9.25	9.65		
	3.00	870	"		1.07	785		
	3.30	900	"		1.80			-15 hrs.

DATE	TIME	MINUTES			TOTAL 358	TOTAL 358	MILES	
8/30/07	P.M.	Discharged 3.00						
	3.30	-	0		1.57			
	3.45	0	30		1.48	1022	79.	
	.37	2		-	1.42			
	.40	4		-	1.392			
	.45	10		-	1.377			
	.50	20		-	1.395			
	4.00	30		-	1.34			
	.15	40		-	1.32			
	.30	60		-	1.29	1045	80.	
	.50	80		-	1.265			
	5.15	100		-	1.255			
	.30	120		-	1.24	1021	80.7	
	.50	140		-	1.224			
	6.15	160		-	1.217			
	.30	180		-	1.205	1002	80.7	
	.50	200		-	1.191			
	7.15	220		-	1.182			
	.30	240		-	1.175	988	80.1	
	.50	260		-	1.16			
	8.15	280		-	1.15			
	.30	300		-	1.13	962	80.1	
	.50	320		-	1.100			
	9.15	340		-	1.07			
	.30	360		-	1.01	977	80	

DATE	TIME	MIN	AMPS	VOLTS	TENTS 398	TENTS 398 TABLE	
8/30/09	PM 7	20	360	30	1.00		-1811.7
	45	320	-		.965		
	50	380	-		.925		
	100	390	-		.886		
	15	400	-		.837		
	25	410	-		.82		
	26	411	-		.80		-2055
	30	420	-			100 .792	
	Change #309						
8/30/09	PM 1130	0	30		on change		
8/31/09	PM 1500	30	"		1025	79	
	200	150	"		.94	78	
	400	370	"		.86	77	
	600	590	"		.865	76	
	800	510	"		.90	75	
	1000	630	"		.925	75.5	
	PM 1300	750	"		.975	77.2	
	200	870	"		.98	78.N	
	30	900	"		1812		-15 lbs

DATE	TIME	MIN	AMPS	VOLTS	TENTS 398	TENTS 398 TABLE	
8/31/09	PM	Recalibrate #309					
	2.30	-		1.572	975	78.2	
	35	0	30	1.43			
	37	2	-	1.447			
	40	5	-	1.382			
	45	10	-	1.365			
	50	20	-	1.337			
	3.00	30	-	1.317			
	15	40	-	1.30			
	30	60	-	1.27	952	78.	
	50	80	-	1.257			
	4.15	100	-	1.24			
	35	120	-	1.22	92.	78.	
	55	140	-	1.212			
	5.15	160	-	1.20			
	35	180	-	1.197	90.7	77.	
	55	200	-	1.187			
	6.15	220	-	1.18			
	35	240	-	1.17	91.2	76.7	
	55	260	-	1.157			
	7.15	280	-	1.147			
	35	300	-	1.13	92.2	76.5	
	55	320	-	1.107			
	8.15	340	-	1.067			
	35	360	-	1.01	94	77	

DATE	TIME	MIN	AMP	VOLTS	TEMP 378	398	TITLE
8/31/09	P.M. 8 30	361½	30	1.00			-1.807
	.14	370	-	.9[illegible]			
	.26	380	-	.87[illegible]			
	9 00	390	-	.782			
		Current off 2 mins					
	.17	400	-	.64			
	.22	404½	-	.40	97	77	-2027
		Charge #310					
8/31/09	P.M. 10 12	0	30		96	77	
	1.15	60	-		96	78	
9/1/09	A.M. 2.15	120	-		94.5	77.5	
	1.15	180	-		92	77.5	
	2.15	240	-		93.5	78	
	3.15	300	-		92	78.2	
	4.15	360	-		93	79	
	5.15	420	-	.1765	94	78.2	-7[illegible]
9/1/09	A.M. 5.18	Discharge #310					
		1	30	1.503			
	.20	0	30	1.48			
	.22	2	-	1.40			
	.24	4	-	1.32			

DATE	TIME	MIN	AMP	VOLTS	TEMP 378	398	TITLE
9/1/09	A.M. 10	30		1.36			
	.4	20	-	1.33			
	5.30	-		1.317			
	6.00	40	-	1.30			
	.20	60	-	1.28	79.5	79.5	
	40	80	-	1.265			
	7 00	100	-	1.257			
	20	120	-	1.252	79	79	
	40	140	-	1.22			
	8.00	160	2	1.202			
	20	180	4	1.192	93.2	77.7	
	40	200	6	1.182			
	9 00	220	4	1.177			
	20	240	4	1.162	92	77.2	
	40	260	6	1.142			
	10.00	280	7	1.105			
	20	300	6	1.104	93.7	77.	
		Current off 2 minutes					
	32½	310½	4	1.02			
	35	313	2	1.00			-1561.5
9/1/09	A.M.	Charge #311					
	1.05	0	30	1.577	94.5	77.	
	.07	2	7	1.55			
	.10	5	7	1.562			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP PIPE	
9/11/09.	11.15 AM	10	30	1.58			
	25	20	"	1.63			
	35	30	"	1.61			
	45	40	"	1.62			
	12.00 PM	61	"	1.637	94.5	78.7	
	15	81	"	1.64			
	45	100	"	1.642			
	1.05	120	"	1.64	94	80	
	25	140	"	1.64			
	45	160	"	1.642			
	2.05	180	"	1.65	93.2	80.4	
	25	200	"	1.655			
	45	220	"	1.665			
	3.05	240	"	1.675	94.2	81.	
	25	260	"	1.69			
	45	280	"	1.702			
	4.05	300	"	1.72	99	81.2	
	25	320	"	1.742			
	45	340	"	1.765			
	5.05	360	"	1.79	99	81.2	
	25	380	"	1.80			
	45	400	"	1.80			
	6.05	420	"	1.812	97.4	80.7	-7 hours

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP PIPE	
9/11/09.	Diesel Range 311						
	PM 6.00	0	0/2	1.477			
	10	0	30	1.482			
	15	5	"	1.42			
	15	5	"	1.372			
	20	10	"	1.367			
	30	20	"	1.347			
	40	30	"	1.322			
	50	40	"	1.302			
	7.10	60	"	1.28	94	80.2	
	30	80	"	1.257			
	40	100	"	1.237			
	8.10	120	"	1.227	93.4	79.7	
	30	140	"	1.22			
	40	160	"	1.212			
	9.10	180	"	1.20	91.2	78.7	
	30	200	"	1.19			
	40	220	"	1.17			
	10.00	240	"	1.162	89.7	77.7	
	30	260	"	1.142			
	40	280	"	1.11			
	11.00	300	"	1.06	91.2	76.7	
	30	310	"	1.027			
	29	319	"	1.00	92.2	76.4	-15 9.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP IDLE	
7/2/09	AM			Charge #3			
	1224	0	30	1.22	78.2	74.2	
	27	2	-	1.55			
	30	5	-	1.72			
	34	10	-	1.65			
	45	20	-	1.65			
	55	30	-	1.67			
	105	40	-	1.65			
	25	60	-	1.65	89	76	
	45	80	-	1.66			
	2.05	100	-	1.66			
	25	120	-	1.65	88	76	
	45	140	-	1.66			
	3 05	160	-	1.65			
	25	180	4	1.66	87	75	
	45	200	4	1.65			
	4 05	220	4	1.66			
	25	240	4	1.67	87	75	
	45	260	4	1.71			
	5 05	280	4	1.72			
	25	300	4	1.76	86.5	75	
	45	320	4	1.75			
	6 05	340	4	1.82			
	25	360	4	1.82	85	75	
	45	380	4	1.83			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP IDLE	
7/2/09	AM						
	1265	400	30	1.833			
	25	420	4	1.84	70	74.5	-7 hrs
				Discharge #3			
7/2/09	AM						
	1.28	—	Open	1.58			
	30	0	30	1.50			
	32	2	4	1.42			
	35	5	4	1.40			
	40	10	4	1.36			
	50	20	4	1.34			
	800	30	4	1.32			
	10	40	4	finished			
	30	60	4	1.27	89.2	74	
	50	80	4	1.25			
	900	100	4	1.227			
	30	120	4	1.225	88	73.7	
	50	140	4	1.217			
	10.10	160	4	1.205			
	30	180	4	1.20	89	73.7	
	50	200	4	1.182			
	11.10	220	4	1.177			
	30	240	4	1.182	91	73.7	
	50	260	4	1.14			
	12.10	280	4	1.10			
	30	290	4	1.08			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS 1016	
9/2/09	PM 1230	300	30	105	92.2	74.5	
	40	310	5	102			-158
	49	319		98.3			
	100	320	-	97.7			
	10	340	-	90.4			
	20	350	-	88.4			
	30	360	-	74.7	96.2	76	
	40	370	-	88.2			
	44	374	-	80	98.2		-187
9/2/09	Connected in Engineering Section to get 47 mins.						

DATE	Time	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 1016	
			Charge = 360				
10/7/09	PM 935	0.	30	on charge			
	805	30	"		95	75.2	
	505	150	"		96	86.7	
	705	270	"		96	86	
	805	370	"		97	85	
	1105	510	"		99.1	83.	
10/8/09	AM 105	680	"		100.2	81.2	
	305	760	"		101.4	81.7	
	505	870	"		99.	81.7	
	35	900	"	122			-15 hrs
			Discharge = 360				
10/12/09	AM 538	—	30 amp	135	71		
	40	0.	20	135	71.2	73	
	42	2	"	132			
	45	5	"	129			
	50	10	"	126			
	600	20	"	124			
	10	30	"	122			
	20	40.	"	120			
	30	50	"		96.	79.4	
	700	80.	"	115.7			
	20	100	"	114			
	40	120	"	112	97.2	79.3	

DATE	TIME	MIN	AMP	VOLTS	TEMPS		
10/8/09	8:10 AM	150	30	121.2			
	20	160	"	120.7			
	40	180	"	120	97	80	
	9:00	200	"	119			
	20	220	"	118			
	40	240	"	117	97.2	80	
	10:00	260	"	116.2			
	20	280	"	114			
	40	300	"	112	100	81	
	11:00	320	"	109			
	20	340	"	108			
	28	348	"	100			-174.
	40	360	"	97.7	103.2	81.5	
	50	370	"	82			
	12:00 AM	380	"	63.2			
	10	390	"	80			-192.
	27	407	"		111	82.7	
10/8/09	7:17		Charge #361				
	130	0	30	Air Charge			
	200	30	"		104	83	
	400	150	"		101	85.5	
	600	270	"		100	83	

DATE	TIME	MIN	AMP	VOLTS	TEMPS		
10/8/09	800	390	30		95	82	
	1000 AM	510	"		98	80	
10/9/09	1200	630	"		98	80	
	200	750	"		95	77.5	
	400	870	"		98.2	78.7	
	30	900	"	125			-15 hrs
		Discharge #361					
10/9/09	AM 438	—	open	160	99		
	40	0	30	150.2	97	74.5	
	42	2	"	147.2			
	45	5	"	134.5			
	50	10	"	137			
	500	20		134			
	10	30		132			
	20	40		130			
	40	60		128	96	76	
	600	80		126			
	20	100		124			
	40	120		122	96	76	
	700	140		115			
	20	160		105			
	40	180		120	82		
	800	200		117			
	20	220		118			

DATE	TIME	MIN.	AMPS	VOLTS 378	TEMP. 378	TEMP. IOLE	
10/9/09	PM 2.40	240	30	1.60	92	785	
	3.00	260	"	1.36			
	20	280	"	1.47			
	40	300	"	1.46	95	77	
	4.00	320	"	1.38			
	20	340	"	1.017			
	30	343	"	1.00			-17.5
	40	360	"	.892	97	78	
	50	370		.776			
	11.00	380	"	.583			
	02	382	"	.50			-19.1
	36	416	"		1.00	80	
	Stood idle 37 hours over Saturday and Sunday						
		Charge # 362					
10/11/09	AM. 12.25	0	30 Min Charge				
	.55	30	"		82.5	79	
	2.55	150	"		87	76	
	4.55	270	"		88	76	
	6.55	390	"				
	8.55	510	"		93	77	
	10.55	630	"		96	78	
	PM 12.55	750	"		97	78	

DATE	TIME	MIN	AMPS	VOLTS 378	TEMPS 378	TEMPS IOLE	
10/11/09	PM 2.40	870	30		92.2	78	
	3.20	900	"	1.537			-15 hrs
	Discharge						
10/11/09	PM 3.28	—	4/40	1.58	94.7	79	
	30	0	30	1.489			
	32	2	"	1.42			
	35	5	"	1.392			
	40	10	"	1.372			
	50	20	"	1.34			
	4.00	30	"	1.315			
	10	40	"	1.31			
	30	60	"	1.26	92	77	
	50	80	"	1.255			
	5.10	100	"	1.232			
	30	120	"	1.224	90.5	78	
	50	140	"	1.215			
	6.10	160	"	1.202			
	30	180	"	1.26	89	78	
	50	200	"	1.19			
	7.10	220	"	1.18			
	30	240	"	1.172	90	78	
	50	260	"	1.16			
	8.10	280	"	1.145			
	30	300	"	1.133	99		

DATE	TIME	MIN	AMP	VOLT 378	TEMP 378	TEMP IDLE	
10/11/09	PM 8.50	270	50	110			
	9.10	240	"	105			
	20	300	"	1055			
	31	9.51	"	1055			
	50	9.20	"	945	1015	78	-175.5
	40	370	"	84			
	50	380	"	66			
	56	386	"	50	995	805	-193.
	P.M.	Charge	"	363			
10/11/09	11.15	10	30		98	81	
10/12/09	PM 12.15	60	"		97	81	
	1.15	120	"		95	805	
	2.15	180	"		93	80	
	3.15	240	"		93	795	
	4.15	300	"		925	795	
	5.15	360	"		92	795	
	6.15	420	"	120			-7hrs.
		Discharge	"				
10/12/09	AM 6.17	—	Open	15			
	20	0	30	146	975	79	
	22	2		1402			
	25	5		137			
	30	10		135			

DATE	TIME	MIN	AMP	VOLT 378	TEMPS 378	TEMPS IDLE	
10/12/09	A.M. 6.40	20	30	1227			
	50	30	"	1209			
	7.00	40	"	1196			
	20	60	"	1205	945	792	
	40	80	"	1245			
	8.00	100	"	1235			
	20	120	"	1222	947	780	
	40	140	"	1212			
	9.00	160	"	1120			
	20	180	"	1177	947	78	
	40	200	"	1175			
	10.00	220	"	1172			
	20	240	"	1132	947	774	
	40	260	"	1132			
	11.00	280	"	1047			
	20	300	"	1017			
	40	320	"	1000	967	774	-1465
		Charge 364					
10/12/09	PM 12.25	0	30	1.537	922	78	
	27	2	"	1.58			
	30	5	"	1.595			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Inlet	
	PM						
10/12/09	12.35	10	30	1.577			
	.45	20	"	1.612			
	.55	30	"	1.615			
	1.05	40	"	1.63			
	.25	60	"	1.64	95	78	
	.45	80	"	165			
	2.05	100	"	1.657			
	.25	120	"	.166	92	78	
	45	140	"	1.66			
	3.05	160	"	1.665			
	25	180	"	1.677	89.5	78	
	45	200	"	1.687			
	4.05	220	"	169			
	25	240	"	1.71	87	77	
	45	260		1742			
	5.05	280		176			
	25	300		180	87.5	76	
	45	320		1.77			
	6.05	340		1.77			
	25	360		184	89	76	
	45	380		1845			
	7.05	400		1855			
	25	420		1.87	90	74	-Thus

DATE	TIME	MIN	HRS	VOLTS 398	TEMP 398		
				Discharge			
10/12/09	PM 7.25	—	then	1.895			
	30	0	30	1.895			
	32	2	"	1.925			
	35	5	"	1.895			
	40	10	"	137			
	50	20	"	134			
	8.00	30	"	102			
	10	40	"	130			
	30	60	"	1.275	90	75	
	50	80	"	126			
	9.10	100	"	120			
	30	120	"	1.222	89	73	
	50	140	"	1.217			
	10.10	160	"	121			
	30	180	"	120	89.5	73	
	50	200	"	1.125			
	11.10	220	"	1.172			
	30	240	"	1.145	90.2	1.45	
	50	260	"	1.122			
10/13/09	AM 12.10	280	"	1.065			
	30	300	"	100	94	76.2	-150.

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS Kelle	
10/13/09	9.11		Exchange		365		
	2.10	0	30	1875			
		12	2	160			
		15	5	160			
		20	10	1611			
		30	20	163			
		40	30	1665			
		50	40	1665			
	4.10	60		1665	897	792	
		30	20	1665			
		50	40	1664			
	5.10	120		1664	885	792	
		30	140	1665			
		50	160	169			
	6.10	170		1658	865	797	
		30	200	1658			
		50	220	1667			
	7.10	240		1702	88	799	
		30	260	172			
		50	280	174			
	8.10	300		1702	897	78	
		30	320	1872			
		50	340	1822			
	9.10	360		1822	91	769	
		30	380	1837			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Kelle	
10/13/09	9.11	400	30	1854			
	9.10	420		1853	802	707	-7 hrs
10/13/09	9.11	Discharge					
	9.13	—	5	1875			
	1.15	0	30	1858			
	17	2		1807			
	20	5		1377			
	25	10		1365			
	35	20		1325			
	45	30		130			
	55	40		1285			
	1.15	60		1265	897	75	
	35	80		1235			
	55	100		122			
	2.15	120		1207	88	745	
	35	140		120			
	55	160		117			
	3.15	180		1180	871	75	
	35	200		1125			
	55	220		1155			
	4.15	240		1137	96	75	
	35	260		1107			
	55	280		1092			-1465
	5.15	300		1070			Meter on board was found to read low
	35	320		1046	927	75	5-28-10

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 1046	
	Current off 5 minutes						
10/12/09	3.30	310	30	.927			
	.40	320	"	.957			
	.50	330	"	.732			
	4.00	340	"	.161			
	.03	343	"	.50	96.	75.	-17.15
Cell will now run in the Endurance-Section for 47 runs. See results in the Endurance Book.							
11/15/09	Cell has now had 47 Endurance-Runs, it has stood idle 14½ days and will now run as follows						
			Charge		4.13		
11/29/09	AM. 12.45	0	30				
	1.15	30	"		81.5	77.5	
	3.15	150	"		88.	77.	
	5.15	270	"		90.	80.7	
	7.15	390	"		94.	84.5	
	9.15	510	"		93.	80.	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
11/29/09	P.M. 1.45	630	30		94.7	78	
	3.45	740	"		94.5	77	
	3.45	830	"		94.5	76.5	
	.45	900	"	1.317			-15 hrs
11/29/09	P.M.		Discharge				
	3.48	—	4.13	1.577	96.	76.5	
	.50	0	30	1.49			
	.52	2	"	1.41			
	.55	5	"	1.387			
	4.00	10	"	1.362			
	.10	20	"	1.337			
	.20	30	"	1.317			
	.30	40	"	1.302			
	.50	60	"	1.275	95.5	76	
	5.10	80	"	1.252			
	.30	100	"	1.237			
	.50	120	"	1.22	93.7	76	
	6.10	140	"	1.215			
	.30	160	"	1.202			
	.50	180	"	1.195	93.5	77	
	7.10	200	"	1.185			
	.30	220	"	1.177			
	.50	240	"	1.170	95	76	
	8.10	260	"	1.145			

DATE	TIME	MIN	AMPS	VOLTS 398	T.E.MP 398	1016	
11/29/09	PM 800	120	30	113			
	50	300	"	110.2	94	76	
	910	330	"	106			
	30	330	"	103			
	30	346	"	100			-170.
	40	350	"	94	0		
	50	360	"	85	88	77	
	1000	370	"	68			
	03	373	"	50	103	78	-188.5.
				Charge			
11/30/09	PM 12.20	0	30				
	50	30	"		102	75.5	
	2.50	100	"		95	78	note:
	4.50	270	"		87.2	74.5	Found that cells
	6.50	390	"		85	74.5	were short in
	8.00	510	"				fuse for wire.
		AM 840					
	At 840 cell was taken off charge and then discharged to .50V without discharge readings.						

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	1016	
11/30/09	PM			Charge 414			
	300	30					
		30	-		90	74.5	
	5.30	120	-		89	74.5	
	7.30	270	-		87	75	
	9.30	390	-		91	76	
	11.30	510	-		94	79.	
12/1/09	PM 1.30	630	-		94	79	
	3.30	750	-		94.5	75	
	5.30	870	-		94	75	
	6.00	900	-	125			-15 hrs
				Discharge			
12/1/09	AM 600	-	amp	150	95	77.7	
	10	0	50	148			
	12	2	-	140			
	15	5	-	135			
	20	10	-	1302			
	30	20	-	1335			
	40	30	-	1315			
	50	40	-	mined			
	700	100	-	1265	94	77.2	
	30	130	-	1252			
	50	150	-	1235			
	800	160		122.	93	76	

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
12/1/09	PM 8.50	160	30	121			
	.55	160	"	120			
	9.10	150	"	120	915	767	
	.30	200	"	118.2			
	.50	260	"	117.5			
	10.10	240	"	116.5	92	75	
	.30	260	"	115			
	.50	280	"	114			
	11.10	30	"	112	925	75	
	.30	320	"	110			
	.50	340	"	106			
	PM 12.05	355	"	100			-177.5
	.10	360	"	98.2	962	757	
	.30	370	"	95.5			
	.50	380	"	88.5			
	40	390	"	1545			
	41	391		50			-195.5
					104	76	
12/1/09	PM	Charge		115			
	2.15	0	30	On charge			
	45	30	"		101	77.2	
	4.45	150	"		95.7	77.5	
	6.45	270	"		90.5	76	
	8.45	390	"		91	76	
	10.45	510	"		90	76	

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
12/2/09	PM 12.45	630	30		91	77	
	2.45	750	"		89.5	76	
	4.45	870	"		88.7	74	
	6.15	990	"	125			-154 hrs
				Discharge			1.15
12/2/09	PM 5.12	—	0	1.55	88	73	
	20	0	30	149			
	22	2	"	142			
	25	5	"	138			
	30	10	"	1385			
	40	20	"	1325			
	50	30	"	1305			
	6.00	40	"	130			
	20	60	"	1265	87	73	
	40	80	"	1242			
	7.00	100	"	1225			
	20	120	"	1215	86.5	73	
	40	140	-	121			
	8.00	160	-	120			
	33	193	"	118.2			
	40	200	-	118.0			
	9.00	220	-	117.5			
	21	241	-	116.2	87.2	73	
	40	260	-	115.5			

Date	Time	Min	Amp	Volts 398	Temp. 398	Temp. Idle	
12/2/09	AM 10.00	280	30	114			
	30	300	"	112	90	725	
	40	320	"	109			
	11.00	340	"	1045			
	11	35	"	100			
	20	360	"	94	935	727	-175.5
	30	370	"	95			
	40	380	"	685			
	46	386	"	50			-193.
	PM 12.22				925	735	
			Charge	116			
12/2/09	PM 1.40	0	30		87	745	
	2.40	60	"		88	745	
	3.40	120	"		87.2	745	
	4.40	180	"		87	745	
	5.40	240	"		86.5	747	
	6.40	300	"		87	745	
	7.40	360	"		87.5	75	
	8.40	420	"	1313			-7hrs
			Discharge				
12/3/09	PM 8.43	—	0	PM 158			
	45	0	30	148	81	755	
	47	I	"	141			

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
12/3/09	PM 8.50	0	30	138			
	55	10	"	136			
	9.05	20	"	133			
	15	30	"	131			
	25	40	"	1295			
	45	60	"	1267	91	76	
	10.05	80	"	125			
	25	100	"	1235			
	45	120	"	122	88	76	
	11.05	140	"	121			
	25	160	"	120			
	45	180	"	1195	79	75	
12/2/09	AM 12.05	200	"	1195			
	25	220	"	1167			
	45	240	"	115	90.	745	
	1.05	260	"	1135			
	25	280	"	1062			
	40	295	"	100	805	745	-147.5
			Charge	417			
12/2/09	AM 200	0	30	1525	90	745	
	02	2	"	157			
	05	5	"	1580			
	10	10	"	1595			
	20	20	"	1605			

DATE	TIME				VOLTS 378	TEMPS 378	1010	
12/3/09	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
	45	40	30	[illegible]	[illegible]			
	3:00	50	1	1166	70	[illegible]		
	[illegible]	30	1	1163				
	[illegible]	[illegible]	1	1165				
	[illegible]	[illegible]	1	[illegible]	[illegible]	735		
	20	1:00	1	1160				
	40	1:30	1	1160				
	50:00	2:00	1	1692	73.5	732		
	20	20	1	1700				
	40	2:30	1	1701				
	6:00	3:00	1	1702	725	73.		
	20	3:30	1	1702				
	40	3:50	1	1702				
	5:00	4:00	1	1702	730	727		
	20	4:30	1	1702				
	40	5:00	1	1702				
	6:00	5:30	1	1704	875	725		
	10	2:30	1	1645				
	20	1:00	1	1642				
	9:00	1:20	1	1555	692			-7 hrs
12/3/09	7:00							
	7:03			159				
	10:00	0	30	1692				

DATE	TIME			VOLTS 378	TEMPS 378	1010	
12/3/09	7:07	2	30	1422			
	10	4	1	1392			
	15	10	1	1365			
	25	20	1	1335			
	35	30	1	1315			
	45	40	1	130			
	1:00	50	1	127	90	737	
	2:00	80	1	1252			
	45	100	1	1232			
	11:05	120	1	122	88	735	
	25	140	1	1212			
	45	160	1	120			
12/3/09	PM 12:05	180	1	1197	89	737	
	25	200	1	1152			
	45	220	1	117			
	1:05	240	1	115	89½	735	
	15	260	1	1127			
	45	280	1	108			
	2:05	29½	1	100	90	722	-14.9.2
				Change 418			
12/3/09	PM 3:00	0	30	154	832	72	
	02	2	1	1595			
	05	5	1	1600			

Date	Time	Min	Amp	Volts	Temps 398	Idle	
12/3/09	PM 310	10	30	162			
	20	20	"	162			
	30	30	"	162			
	45	45	"	162			
	400	60	"	163	837	72	
	25	65	"	162			
	40	100	"	162			
	500	130	"	163	837	72	
	30	140	"	163			
	40	160	"	162			
	600	180	"	1.195	80	72	
	20	200	"	170			
	40	220	"	171			
	700	240	"	1736	80	73	
	20	260	"	173			
	40	280	"	1734			
	800	300	"	182	84	735	
	20	320	"	184			
	40	340	"	185			
	900	360	"	1850	850	735	
	20	380	"	186			
	40	400	"	186			
	1000	420	"	186	86	735	-7 hrs

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	IDLE	
			Discharge				
12/3/09	PM 1003	—	0/hm	1585			
	05	0	80	150			
	07	2	"	147			
	10	5	"	137			
	15	10	"	136			
	25	20	"	1333			
	35	30	"	1313			
	45	40	"	130	875	735	
	1105	60	"	1265			
	35	80	"	120			
	AM 105	100	"	1125	852	727	
12/4/09	1205	120	"	121			
	25	140	"	1205			
	45	160	"	1125			
	105	180	"	1185	835	71	
	25	200	"	115			
	45	220	"	1165			
	205	240	"	1105	84	705	
	25	260	"	1119			
	45	280	"	1105			
	305	300	"	1125	840	705	-140.5
	304	297		100			

Date	Time	Min	Amp	Volts 355	Temps 355	Temps 1045
	AM					
						419
12/4/09	1105				762	715
	07			155		
	10			151		
	15			161		
	25			1625		
	35			1642		
	45			1665		
	505			1677	87	717
				1685		
	15			1695		
	25			1705	727	72
	35			1705		
	45			1702		
	55			1704	767	725
	200			170		
	15	200		1715		
	25	200		1727	87	727
	35	200		1740		
	45	280		177		
	905	300		181	585	735
	25	320		1822		
	45	340		183.5		
	1005	360		184	917	735
	25	380		1842		

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle
	AM					
12/4/09	1045	400	30	184		
	1105	420		1837	95.2	77.5 — 7 hrs
			Discharge.			
	AM					
12/4/09	1108	—	open	158		
	10	0	30	150		
	12	2		1435		
	15	5		1395		
	20	10		1375		
	30	20		134		
	41	31		1304		
	50	40		1292		
	PM 210	60		128	95	737
	30	80		125		
	50	100		1237		
	110	120		122	937	74
	30	140		122		
	50	160		121		
	210	180		120	95	745
	30	200		119		
	50	220		118		
	310	240		116	955	752
	30	260		1132		
	50	280		1082		
	400	290		125		

Date	Time	Min	Amp	Volts 398	Temps 398	Temps 398 Idle	
12/4/09	PM 4.13½	302½	30	1.00			−151.7
	.20	310	"	.98			
	.30	320	"	.92			
	.40	330	"	.845	99	752	
	.50	340	"	.71			
	5.00	350	"	.50	103.2	752	−175

12/6/09 After standing idle 4½ hrs, solution of cell was emptied out which read sp. gr. at temp. of and was then filled with 21% H_2SO_4 containing 11.2 g. of H_2SO_4 per liter it will now run as follows

Charge #420

12/6/09	AM 9.25	0	30		on charge		
	.55	30	"		.70	.727	
	11.55	150	"		.80	.73	
	1.55	270	"		.84	.747	
	3.55	390	"		.89	.762	
	5.55	510	"		.90.2	.758	
	7.55	630	"		.931	.762	
	9.55	750	"		.94	.76	
	11.55	870	"		.942	.769	
12/7/09	AM 12.25	900	"	1.82			−15 elm

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 398 Idle	
			Discharge #420				
12/7/9	PM 12.25	—	off	1.58	.91	.727	
	.30	0	30	1.489			
	.32	2	"	1.415			
	.35	5	"	1.355			
	.40	10	"	1.362			
	.50	20	"	1.342			
	1.00	30	"	1.325			
	.10	40	"	1.315			
	.30	60	"	1.282	.912	.73	
	.50	80	"	1.26			
	2.10	100	"	1.215			
	.30	120	"	1.22	.915	.732	
	.50	140	"	1.22			
	3.10	160	"	1.215			
	.30	180	"	1.207	.917	.735	
	.50	200	"	1.177			
	4.10	220	"	1.19			
	.30	240	"	1.182	.912	.737	
	.50	260	"	1.17			
	5.10	280	"	1.158			
	.30	300	"	1.137	.937	.74	
	.50	320	"	1.122			
	6.10	340	"	1.097			
	.30	360	"	1.042	.96	.745	

DATE	TIME	MIN	AMP	VOLTS 298	TEMPS 298	TEMPS IDLE	
12/7/09	P.M. 1150	375	30	100			-137.7
	50	380	"	965			
	700	390	"	885			
	10	400	"	745			
	18	408	"	50	99	745	-204
			Charge	421			
12/7/09	A.M. 750	0	30				
	820	30	"		101.7	74.2	
	1020	150	"		93	73.8	
	1120	270	"		89	74.1	
	220	390	"		84	74.5	
	420	510	"		92.7	74.7	
	620	630	"		945	74.5	
	820	750	"		867	74	
	1020	870	"		917	73	
	1050	900	"	1845			-15 hrs
			Discharge				
12/7/09	P.M. 1053	—	40	1555			
	55	6	30	1510	92	73	
	57	8	"	1435			
	11.00	5	"	1395			
	05	10	"	1345			

DATE	TIME	MIN	AMP	VOLTS 298	TEMPS 298	TEMPS IDLE	
12/7/09	A.M. 1115	20	30	1245			
	25	30	"	1222			
	35	40	"	1297			
	55	60	"	1275	91.7	73	
12/8/09	A.M. 12.15	80	"	1257			
	35	100	"	1242			
	55	120	"	1222	915	73	
	1.15	140	"	1222			
	35	160	"	1217			
	55	180	"	121	93	74	
	2.15	200	"	120			
	35	220	"	1195			
	55	240	"	1182	95	75	
	3.15	260	"	1165			
	35	280	"	1155			
	55	300	"	1127	96.5	75	
	4.15	320	"	1117			
	35	340	"	1065			-178
	51	356	"	100			
	55	360	"	95	99	75.7	
	5.15	320	"	845			
	25	390	"	645			
	35	398	"	80	100	75.4	-196.7

Date	Time	Min	Amps	Volts	Temps		
				3 PM	3 PM	Volts	
			Charge	422			
12/8/09	AM 6.00	0	30	Ch	arge		
	30	30	"	101	76		
	8.30	150	"	93.8	75.7		
	10.30	270	"	89	74.5		
	PM 12.30	390	"	87.2	74		
	2.30	510	"	89	73.		
	4.30	630	"	90	72		
	6.30	750	"	93	72		
	8.30	870	"	93	72		
	9.00	900	"	1.845			-15 hrs
			Discharge				
12/8/09	AM 9.03	—	0	pen	160		
	05	0	30	160	93.5	72	
	07	2	"	142			
	10	5	"	137			
	15	10	"	132			
	20	20	"	135			
	35	30	"	132			
	45	40	"	130			
	10.05	60	"	126	87	72	
	25	80	"	124			
	45	100	"	123			
	11.05	120	"	123	85.5	72	

DATE	TIME	MIN	AMP	VOLTS	TEMPS		
				3 PM	3 PM	VOLTS	
12/15/09	PM 12.5	140	30	122			
	40	160	"	121			
12/9/09	AM 10.05	180	"	120	87	72.5	
	25	200	"	120			
	45	220	"	119			
	11.05	240	"	118	92	72.5	
	25	260	"	117			
	45	280	"	115			
	12.05	300	"	1.135	93.2	72.5	
	25	320	"	1.117			
	45	340	"	1.105			
	55 57	360 362	"	1.101 1.099			-176.
	1.05	380	"	1.09	95	72.5	
	15	400	"	1.085			
	25	420	"	1.085			
	35	440	"	1.075			
	36	441		1.07	96.5	72.5	-195.7
				Charge	423		
12/9/09	AM 6.10	0	30	161			
	12	2	"	163.5			
	15	5	"	163.5			
	20	10	"	163.4			

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	398 Tube	
12/24/09	PM 6:20	20	30	1642			
	40	30	"	1647			
	50	40	"	1652			
	7.10	50	"	1655	88	73	
	.20	60	"	1655			
	30	70	"	1652			
	8.10	120	"	1.68	84	72.7	T
	20	140	"	1.682			
	50	160	"	1.677			
	9.10	180	"	1.682	91.7		
	50	200	"	1.677			
	50	220	"	1.687			
	10.10	240	"	1.69	84.5	72.5	T
	20	260	"	1.70			
	50	280	"	1.717			
	11.10	300	"	1.725	84.7	72.5	T
	30	320	"	1.74			
	50	340	"	1.75			
	PM 12.10	360	"	1.787	85.5	73	T
	30	380	"	1.807			
	50	400	"	1.82			
	1.10	420	"	1.835	88	91	T-7 hrs
12/25/09	T.M. 1.13	—		Discharge 1.58			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	398 TUBE	
12/26/09	PM 1.05	0	30	150			
	.17	12	"	1427			
	.20	15	"	1369			
	.25	20	"	1350			
	.30	25	"	1310			
	.35	30	"	1290			
	2.10	60	"	1267	86.5	73	
	.35	90	"	1247			
	3.05	100	"	1230			
	3.15	120	"	1227	89.2	73.7	
	35	140	"	1217			
	37	142	"	1207			
	4.15	180	"	1170	88.7	73.5	
	35	200	"	1119			
	55	220	"	1.18	—		
	5.15	240	"	1.16	89.2	73.5	
	35	260	"	1135			
	55	280	"	1082			
	6.05	290	"	1055	Current off this min		
	10	300	"	100	93	73.5	-150

DATE	TIME	MIN	AMPS	Volts 398	TEMP. 358	TEMP. IDLE	
			Charge		424		
12/9/09	PM 1.00	0	3.0	1625	91	137	
	02	2	"	167			
	05	5	"	168			
	10	10	"	169			
	20	20	"	1610			
	30	30	"	162			
	40	40	"	1620			
	50	50	"	164	91	73	
	20	80	"	1637			
	40	100	"	166			
	50	120	"	166	896	93	
	20	140	"	1665			
	40	160	"	1667			
	1.00	180	"	1675	89	[illegible]	
	20	200	"	1675			
	40	220	"	1675			
	4.00	240	"	170	885	76	
	20	260	"	1715			
	40	280	"	1722			
12/10/09	AM 12.00	300	"	1772	89	[illegible]	
	20	320	"	1805			
	40	340	"	1772			
	1.00	360	"	1825	902	762	
	20	380	"	1837			

Date	Time	Min	Amps	Volts 398	Temp 358	Temp Idle	
12/10/09	AM 1.40	400	30	154			
	2.00	420	"	1535	922	76	
	10	430	"				run changed 10 min
	A.M.			8.0	9.0		
12/10/09	2.18	o/load	30	159			
	15	0	"	150			
	17	2	"	144			
	20	5	"	1395			
	25	10	"	1375			
	35	20	"	134			
	45	30	"	1325			
	55	40	"	130			
	3.15	60	"	1275	922	75	
	35	80	"	126			
	55	100	"	1247			
	4.15	120	"	122	91	75	
	35	140	"	1222			
	55	160		1215			
	5.15	180		1202	90	74	
	35	200		1192			
	55	220		1182			
	6.15	240		1165	892	737	
	35	260	"	1145			
	55	280		111			
	7.05	290	"	1095			To [illegible]

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
		Battery off Time					
12/10/09	7.16	300	30	1.645	90	72	
	25	309	"	160			-154.5
			Charge	425			
12/10/09	PM 8.25	0	30	1.54	86.2	72	
	.27	2	"	1.58			
	.30	5	"	1.59			
	.35	10	"	1.600			
	.45	20	"	1.620			
	.55	30	"	1.632			
	9.05	40	"	1.64			
	.15	60	"	1.652	88	71.5	
	.45	90	"	1.67			
	10.05	100	"	1.672			
	.35	120	"	1.672	88	71.5	
	.45	140	"	1.672			
	11.05	160	"	1.675			
	25	180	"	1.672	86.2	72.5	T
	45	200	"	1.685			
	PM 12.05	220	"	1.695			
	25	240	"	1.707	85	72	
	.45	260	"	1.725			
	1.05	280	"	1.747			

Date	Time	Min	Amp.	Volts 398	Temp. 398	Temp. Idle	
12/10/09	PM 1.25	300	30	1.795	86	72.7	T
	.45	320	"	1.82			
	2.05	340	"	1.837			
	25	360	"	1.847	86.2	73.	T
	45	380	"	1.855			
	3.05	400	"	1.86			
	.25	420	"	1.870	87	72.2	T -7 hrs.
12/10/09	P.M.		Discharge				
	3.38	—	Final (87)				
	.30	0	30	1.495			
	.32	2	"	1.43			
	.35	5	"	1.40			
	.40	10	"	1.372			
	.50	20	"	1.34			
	4.00	30	"	1.32			
	.10	40	"	1.30			
	.30	60	"	1.28	88.2	72.7	
	.50	80	"	1.26			
	5.10	100	"	1.24			
	.30	120	"	1.232	88	72.7	
	.50	140	"	1.22			
	6.10	160	"	1.22			
	.30	180	"	1.21	88.5	73	
	.50	200	"	1.20			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 1015	
12/10/09	PM 710	220	80	.112			
	80	240	"	.1125	92.5	.92	
	50	260	"	.114			
	810	280	"	.110			
	20	290	"	.1025			
	30	300	"	.102	92	.127	-153.2
	845	30 Lg	"	.100			
	50	310	"	.96			
	50	320	"	.942			
	900	330	"	.88			
	10	340	"	.80			
	20	350	"	.58			
	25	355	"	.50	95	.137	-177.5
12/13/09	All will now run in the Endurance Section for 47 runs. See results in the Endurance Book.						
	All Cells Qual 47 Endurance Runs. Stood Test 99½ hours. Connected on Board for overcharge tests						

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Bell	
	PM	Charge # 473					
1/16/10	900	0	30	Discharge			
	30	30	"		727	70	
	1130	150	"		62	727	
1/17/10	AM 130	270	"		841	74	
	330	390	"		861	74	
	530	510	"		835	722	
	730	630	"		89	73	
	930	750	"		935	732	
	1130	870	"		942	745	
	PM 1200	900	"	.1887			-15 hrs.
1/17/09	PM	Discharge					
	200	—	off	.1882	95	747	
	10	0	30	.1791			
	20	30	"	.1402			
	10	60	"	.1397			
	15	10	"	.1375			
	20	20	"	.134			
	30	30	"	.1325			
	40	40	"	.131			
	100	60	"	.128	94	75	
	20	80	"	.1207			
	40	100	"	.124			
	205	120	"	.122	927		

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP IDLE	
1/17/10	PM 225	140	30	122			
	45	160	"	1217			
	305	180	"	120	92	747	
	25	200	"	1177			
	45	220	"	1165			
	405	240	"	118	95	75	
	25	260	"	112			
	45	265	"	1145			
	505	300	"	1125	965	75	
	25	320	"	110			
	45	340	"	1.06			
	55	350	"	102			
	6 —	355	"	100			
	05	360	"	97	797	762	-177.5
	15	370	"	88			
	25	380		76			
	35	390		50	1185	77	-105
				Charge			
1/7/10	PM 505	0	30				On Charge
	835	30	"		111	775	
	1035	150	"		97	77	
1/18/10	PM 125	270	"		902	No	
	235	390	"		882	752	
	435	510	"		875	74	
	635	630	"		91	75	

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
1/18/10	AM 835	700	30		922	742	
	1035	870	"		915	732	
	1105	900	"	1842			-15 hrs.
				Discharge			
1/15/10	AM 1128	—	open	1392	917	732	
	10	0	30	150			
	12	2	"	1422			
	15	5	"	1392			
	20	10	"	1367			
	30	20	"	134			
	40	30	"	132			
	50	40	"	1305			
	PM 1210	60	"	1277	807	735	7.
	30	80	"	1257			
	50	100	"	124			
	110	120	"	1232	86	735	7.
	30	140	"	1222			
	50	160	"	1212			
	210	180	"	121	915	730	
	30	200	"	120			
	50	220	"	117			
	310	240	"	118	915	732	
	30	260	"	1165			
	50	280	"	1155			

DATE	TIME	AMP		VOLTS 398.	TEMP 398	TEMP IDLE	
1/13/10	PM 410	370	20	112.	882	732	
	30	370	"	1107			
	50	369	"	106			
	500	350	"	102			
	10	350	"	100			
	10	360	"	94	925	73	-177
	20	370	"	855			
	30	380	"	66			
	50	380	"	80	1015	73	-192
1/18/10	PM			Charge		475	
				Ex Charge			
	705	0	30		1037	732	
	35	80	"		96	745	
	935	150	"		877	74	
	1135	240	"				
1/19/10	AM 139	390	"		86	765	
	335	510	"		86	75	
	535	630	"		915	75	
	735	750	"		91	75	
	935	870	"		917	722	
	1005	900	"	1055			-15 hrs
1/17/10	PM			Discharge			
	1008	-		1082	9105	732	

Date	Time	Min	Amp	Volt 398	Temps 398	Idle	
1/17/10	PM 1010	5	3	1055			
	12	5	"	142			
	15	5	"	1387			
	20	10	"	1344			
	30	20	"	1337			
	40	30	"	1317			
	50	40	"	1302			
	1110	60	"	1277	89	722	
	30	80	"	1257			
	50	100	"	124			
	PM 1210	120	"	1237	90	732	
	30	140	"	122			
	50	160	"	1215			
	110	180	"	1207	915	73	
	30	200	"	120			
	50	220	"	1192			
	210	240	"	118	92	73	
	30	260	"	1165			
	50	280	"	115			
	310	300	"	1135	925	73	
	30	320	"	1102			
	150	340	"	1087			
	410	360	"	100			-175
	10	360	"	94	945	732	
	20	370	"	892			

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
1/19/10	PM 4:30	380	30	1.625			
	.35	385	"	.50	967	72	-1965
1/19/10	PM	Charge #476					
	610	0	30		91	785	
	710	60	"		90	74	
	810	120	"		892	74	
	910	180	"		882	742	
	1010	240	"		885	705	
	1113	300	"		887	765	
1/20/10	1215	360	"		890	76	
	1110	420	"	1817			-7 hrs
		Discharge					
1/20/10	1.13	-	0 Amp	158	90	76	
	15	0	30	1495			
	17	2	"	1415			
	20	5	"	1382			
	25	10	"	1362			
	1.35	20	"	1.335			
	1.45	30	"	1.305			
	55	40	"	1.297			
	2.15	60	"	129	907	765	

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
1/20/10	PM 2.35	80	30	1.202			
	55	100	"	1.24			
	3.15	120	"	1.23	915	75	
	35	140	"	1.222			
	55	160	"	1.22			
	4.15	180	"	1.205	92	75	
	35	200	"	1.197			
	55	220		1.18			
	5.15	240		1.162	93	747	
	35	260		114			
	55	290		129			
	6.16	300	minutes	1.117			
	17	301		105			-150.5
1/20/10	AM	Charge #477					
	645	0	30	1.58	93	74	
	47	2		1.565			
	50	5		495			
	55	10		159			
	705	20		162			
	15	30		162			
	25	40		1625			
	45	60		164	90	74	
	8.05	80		1655			

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
1/20/10	AM 815	100	20	1661			
	45	120	"	1665	90	74	
	900	140	"	1667			
	25	160	"	1671			
	45	180	"	1672	88	74	Tinit
	1000	200	"	1677			
	25	220	"	1677			
	45	240	"	1707	87	735	
	1100	260	"	1725			
	25	280	"	1755			
	45	300	"	178	845	742	
	PM 1200	320	"	182			
	25	340	"	183			
	45	360	"	185	86	745	
	100	380	"	1855			
	25	400	"	186			
	45	420	"	186			-7 lbs.
			Discharge				
1/20/10	PM 145	—	0	160	885	707	
	50	0	30	1477			
	55	2	"	1435			
	55	5	"	1397			
	300	10	"	1375			
	10	20	"	132			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle	
1/20/10	PM 320	30	30	130			
	30	40	"	126			
	50	60	"	126	895	735	
	310	80	"	124			
	30	100	"	1227			
	50	120	"	122	895	73	
	410	140	"	121			
	30	160	"	120			
	50	180	"	1195	895	73	
	510	200	"	1185			
	30	220	"	1175			
	50	240	"	116	915	73	
	610	260	"	114			
	30	280	"	1097			
	50	300	"	102	925	73	
	57	307	"	100			-153.5
	PM	Charge		478			
1/20/10	740	0	30	153	925	735	
	42	2	"	1575			
	45	5	"	158			
	50	10	"	159			
	800	20	"	1605			
	10	30	"	1615			

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
1/20/10	PM 8.20	40	30	162			
	40	60	"	164	92	74.2	
	9.00	80	"	165			
	20	100	"	165.7			
	40	120	"	166	92	75	
	10.00	140	"	166			
	20	160	"	166.2			
	40	180	"	166.5	91	76	
	11.00	200	"	167.5			
	20	220	"	168.2			
	40	240	"	169.5	91	76.5	
1/21/10	AM 12.00	260	"	171			
	20	280	"	172.5			
	40	300	"	174.5	91.7	76.7	
	1.00	320	"	178			
	20	340	"	178.2			
	40	360	"	179.7	92.5	76.7	
	2.00	380	"	184			
	20	400	"	184			
	40	420	"	184			-7 lbs.
	PM	Pile Charge					
1/21/10	243	-	8/cell	158.2			Y.
	45	0	30	149	94	76.2	
	47	2	"	142.5			

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
1/21/10	PM 2.50	5	30	139			
	55	10	"	136.5			
	3.05	20	"	133.7			
	15	30	"	132			
	25	40	"	130			
	45	60	"	127.7	94	76.2	
	4.05	80	"	126			
	25	100	"	124			
	45	120	"	123.2	93	76	
	5.05	140	"	122.2			1 Volt
	25	160	"	122			
	45	180	"	120.5	93	76	
	6.05	200	"	119.5			
	25	220	"	118			
	45	240	"	116.5	94	76	
	7.05	260	"	114			
	25	280	"	109.5			
	35	290	"	105.5			
	45	300	"	102	94	75.2	
	48	303	"	100			-151.5
		Change #3179					
1/21/10	AM 9.05	0	"	127	88.2	75	
	07	2	"	125			
	10	5	"	160			

Date	Time	Min.	Amp	Volts	Temps 398	Temps 398	Temps Idle	
1/21/10	9.15	10	30	160.2				
	25	20	"	162				
	35	30	"	163				
	45	40	"	164				
	10.05	60	"	165.2	87	74		
	25	80	"	166.2				
	45	100	"	167				
	11.05	120	"	168	807	74		J.
	25	140	"	168.5				
	50	160	"	169				
	12.05	180	"	169	830	74		
	25	200	"	170				
	45	220	"	170.5				
	1.05	240	"	172.5	84	74		
	25	260	"	174				
	45	280	"	176				
	2.05	300	"	179.5	85	74		
	25	320	"	182.5				
	45	340	"	184.5				
	3.05	360	"	184	865	785		
	25	380	"	184.5				
	45	400	"	185				
	4.05	420	"	185.5	90	785		— 7 hrs.
				7F				

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	TEMP. IDLE	
				Discharge			
1/21/10	pm 4.08	—	4pm	160			
	10	0	30	150			
	12	2	"	142			
	15	5	"	140			
	20	10	"	137.5			
	30	20	"	134			
	40	30	"	132			
	50	40	"	130			
	5.10	60	"	128	90	775	
	30	80	"	125.5			
	50	100	"	124			
	6.10	120	"	123.5	95	73	
	30	140	"	122			
	50	160	"	121.5			
	7.10	180	"	120.2	92	735	
	30	200	"	120			
	50	220	"	118			
	8.10	240	"	116.5	895	759	
	30	260	"	113.5			
	50	280	"	109.5			
	9.00	300		106			
	10	300		106.5	927	74	
	20	3 off		100			-152
	20	310		97			
	30	320		92.2			

Date	Time	Min	Amp	Volts 398	Temp 398	Idle	
1/21/10	9.40	320	3 -	847			
	50	340	-	725			
	10.00	360		65			
	03	383		60	977	74	-176.5
				Note - Car change left for note			
				Charge #526			
3/2/10	PM 11.07	0	30	on charge			
	30	30	"	747	782		
3/3/10	AM 1.30	150	"	835	775		
	330	270	"	86	77		
	530	390	"	89	76		
	730	510	"	922	76		
	930	630	"	95	76		
	1130	750	"	95	762		
	PM 130	870	"	967	762		
	300	960	-	1602	957	76	-176
				Discharge			
3/2/10	PM 2.03	-	open	(157)			
	05	0	30	1667			
	07	2	"	1115			
	10	5	"	1082			
	15	10	"	136			
	25	20		183			

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Date	Time	Min	Amp	Volts 398	Temp 398	Idle
3/2/10	2.35	30	30	131		
	45	40	"	130		
	3.05	60	"	1272	91	745
	25	80	"	1245		
	46	101	"	1227		
	4.05	120	"	1219	86	732
	25	140	"	1207		
	45	160	"	1202		
	5.05	180	"	1192	88	735
	25	200	"	1187		
	45	220	"	1177		
	6.05	240	"	1161	924	749
	25	260	"	1116		
	45	280	"	1142		
	7.05	300	"	112	945	75
	25	320	"	1097		
	45	340	"	1065		
	55	350	"	1035		
	8.05	360	"	100	965	76	-180
	15	370	"	96		
	25	380	"	892		
	35	390	"	737		
	44	399	"	50	100	767	-175.5

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
3/2/10	PM			Charge	327		
	9.55	0	30	Discharge			
	10.25	30	"		957	772	
3/4/10	PM 12.25	150	"		95	78	
	2.25	270	"		92	77	
	4.25	390	"		925	77	
	6.25	510	"		95	77	
	8.25	630	"		972	762	
	10.25	750	"		957	752	
	PM 12.25	870	"		96	76	
	1.03	928		1281	98	762	1.5 hr 8 a
				Discharge			
3/4/10	PM						
	—	—	open	—			
	1.05	0	30	1.485			
	.07	2	"	1.425			
	.10	5	"	139			
	.15	10	"	1362			
	.25	20	"	1335			
	.35	30	"	1315			
	.45	40	"	130			
	1.05	60	"	127	972	79	
	.25	80	"	1249			
	.45	100	"	123			
	2.05	120	"	122	972	79	

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
3/4/10	PM 3.25	140	30	121	0		
	.45	160	"	1219			
	4.05	180	"	120			
	.25	200	"	1195	99	785	
	.45	220	"	1185			
	5.05	240	"	1165			
	.27	267	"	1165	97		
	.46	289	"	119			
	6.09	304	"	1127			
	.25	320	"	1095			
	.45	340	"	1016			
	101 .05	356 360	"	100 99	98		-178
	.15	370	"	.892			
	.25	380	"	46			
	.35	390	"	542			
	37 .45	392 —	"	50 .952	982	78	-186
	PM			Charge	320		
3/4/10	8.45	0	30	Discharge			
	9.15	30	"		92	79	
	11.15	150	"		90	78	
3/5/10	AM 1.45	270	"		91	78	
	3.15	390	"		90	78	

Date	Time	Min	Amps	Volts	Temps 398	Temps 398	Idle	
3/5/10	PM 5.15	510	30		95	44		
	7.15	630	"		865	77		
	9.15	750	"		96	755		
	11.15	870	"		91	699		
	45	900	"	1825	92	72		-15 h
				Discharge				
3/5/10	A.M. 11.15	—	15	1512				
	50	0	30	11455				
	52	2	"	1422				
	55	5	"	1382				
3/5/10	PM 12.00	10	"	1357				
	10	20	"	1325				
	20	20	"	1305				
	30	40	"	1267				
	50	60	"	1262	85	72		✓
	1.10	80	"	1242				
	30	100	"	1221				
	50	120	"	1217				✓
	2.10	140	"	1209	83	71		
	30	160	"	1210				
	50	180	"	1192	84	71		✓
	3.10	200	"	1165				
	30	220	"	1172				
	50	240	"	116	[illegible]	70		

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DATE	TIME	MIN	AMPS	VOLT 398	TEMPS. 398	IDLE	
3/5/10	PM.		30				
	4.12	262	"	115			
	30	280	"	1137			
	50	300	"	112	865	71	
	5.10	320	"	1092			
	30	340	"	1042			
	40	350	"	1007	912		
	45 50	360	"	109 945			-17 h
	6.00	370	"	865			
	10	380	"	42			
	20	390	"	53			
	30	400	"	50	915	✓	-18.5 h
				Return 4 cells. 26 Ohm resistance			
				Return 1 cell			
				CHARGE			
3/4/10	PM 8.10	0					
	9.10	60			85	81	
	10.10	120			87	907	
	11.10	180			88	80	
3/5/10	AM 12.10	240			90	81	
	1.10	300			89.5	80	
	2.10	360			89	79	
	3.10	420		114	90	785	-7 h

DATE	TIME	MIN	VOLTS AMPS	VOLTS 398	TEMPS 398	TEMPS IDLE
			DISCHARGE			
3/7/10	AM 313	—	Chg	1562		
	15	0	30	148		
	17	2		140		
	20	5		1375		
	25	10		1355		
	35	20		1335		
	45	30		132		
	55	40		129		
	415	60		126		
	35	80		1222	91	782
	55	100		122		
	515	120		1205	915	477
	35	140		120		
	55	160	28	1185		
	615	180		1177	92	482
	35	200		1175		
	55	220		116		
	715	240		1142	925	457
	35	260		1115		
	55	260	28	105		
	8 AM	2775		100	947	777
		180				

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	Remarks
				J a			
3/7/10	AM			blank		53	
	9:10	0	30	1505	90	77	
	12	2	"	1502			
	15	5	"	1495			
	20	10	"	1477			
	30	20	"	1477			
	40	30	"	1487			
	50	40	"	1605			
	10:10	60	"	1627	865	745	
	30	80	"	1637			
	50	100	"	1647			
	11:10	120	"	1655	84	73	
	30	140	"	1627			
	50	160	"	1637			
3/7/10	PM 12:10	180	"	168	815	71	
	30	200	"	1687			
	50	220	"	1682			
	1:10	240	"	172	825	71	
	30	260	"	168			
	50	280	"	1441			
	2:15	305	"	149	80	71	
	30	320		1805			
	50	340		1822			
	3:10	360		1827	85	71	
	30	380		1[illegible]			

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Date	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS VOLT	
3-9-10	PM 4:50	400	30	1835			
	4:10	420	"	1822	855	695	-7 Rec
	3						
3-9-10	PM			Discharge			
	HS	—		158			
	.15	0	30	148			
	.18	3	"	1405			
	.2	5	"	138			
	.24	10	"	136			
	.34	22	"	132			
	.44	30	"	1305			
	55	40	"	129			
	51.5	60	"	126			
	35	80	"	124	875	70	
	55	100	"	1222			
	615	120	"	122			
	35	140	"	1205			
	55	160	"	118			
	715	180	"	119	91		
	35	200	"	118			
	55	220	"	1195			
	815	240	"	118			
	35	260	"	1194	83	74	
	55	280	"	1195	84		
	905	300	"	100	94		144

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Date	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS IDLE	
3/10	PM			Charge # 531			
	1225	0	30	149			
	24	2	"	150			
	30	5	"	1512			
	35	10	"	154			
	45	20	"	148			
	55	30	"	158			
	1105	40	"	156			
	25	60	"	1577	895	74	
	45	80	"	1635			
	1205	100	"	158			
	25	120	"	1605	877	747	
	45	140	"	163			
	105	160	"	1637			
	25	180	"	162	895	75	
	45	200	"	1637			
	205	220	"	162			
	225	240	"	1697	89	752	
	45	260	"	1757			Meter changed
	305	280	"	1785			
	25	300	"	1815	90	757	
	45	320	"	1822			
	405	340	"	1825			
	25	360	"	184	93	76	
	45	380	"	1845			

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS 1023	
3/8/10	505	400	30	184			
	25	450	"	1862	95	76	-Jhn
				DISCHARGE			
3/8/10	528	-	30	159			
	30	0	30	150			
	32	2	"	1455			
	35	5	"	140			
	40	10	"	1377			
	50	20	"	135			
	600	30	"	133			
	10	40	"	1307			
	30	60	"	128	94.7	76.4	
	50	80	"	126			
	710	100	"	1247			
	30	120	"	124	95	76.5	
	50	140	"	1235			
	810	160	"	1222			
	30	180	"	1217	95	76.5	
	50	200	"	119			
	910	220	"	1165			
	30	240	"	118	95	76.5	
	50	260	"	115			
	1010	280	"	1117			
	30	300	"	106	95.3	76.4	

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Date	Time	MIN	Amps	VOLTS 398	TEMPS 398	TEMPS 1023	
3/8/10	AM 10:39	309	30	160	96		-1545
				charge 532			
3/8/10	AM 11:55	0	30	174	86	74	
	57	2	"	158			
3/8/10	PM 12:00	5	"	160			
	05	10	"	161			
	15	20	"	162			
	25	30	"	163			
	35	40	"	1645			
	55	60	"	1665	85	73.5	
	1:15	80	"	168			
	35	100	"	168			
	55	120	"	1682	85	73.7	
	2:15	140	"	1687			
	35	160	"	169			
	55	180	"	170			
	3:15	200	"	172			
	35	220	"	173	88	73	
	55	240	"	1732			
	4:15	260	"	1732	88	73.5	
	35	280	"	178			
	55	300	"	178			

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Date	TIME	MIN	AMP	VOLTS 298		TEMPS 298	IDLE	Remarks
3/8/10	PM 5.15	320	30	1.842	"	845	725	
	.30	340	"	1.85				
	.50	360	"	1.8				
	6.15	380	"	186				
	35	400	"	185				
	55	420	"	185		90	742	-7.2
			"					
			"					
3-8-10	P.M.			Discharge				
	6.58	—	2 Amp	160				
	7.00	0	30	150				
	.02	2	"	143				
	.05	5	"	1405				
	.10	10	"	138				
	.20	20	"	134				
	.30	30	"	1325				
	.40	40	"	1305				
	8.00	60	"	1292		92	745	
	.20	80	"	1265				
	.40	100	"	1248				
	9.00	120	"	124		93	75	
	.20	140	"	1228				
	.40	160	"	1222				
	10.00	180	"	121		94	75	
	.20	200	"	1202				

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DATE	TIME	MIN	AMP	VOLTS 298		TEMPS 298	IDLE
1040	1040	220	30	1185			
	1100	240	"	1177		95	75
	20	260	"	114			
	40	280	"	108			
	1.50	290	"	106			
3/9/10	AM 12.00	300	"	102		97	752
	.06	306	"	100			-1.53
	.10	310	"	98			
	.20	320	"	93			
	.30	330	"	84			
	.40	340	"	69			
	.50	350	"	50		100	752 -1.75

3-9-10 P.M. Cells disconnected from Board after idle 3.3 hrs.
3-10-10 P.M. Connected on Endurance for 46 mins.
4-6-10 P.M. Disconnected from Endurance after idle 8 days 1.5 hrs.
4-14-10 P.M. Connected on Board for over-charge 4 mins.

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Date	Time	Min	Amps	Volts 398	Temps 398	Temps 398 Idle	
			Charge 579				
4/14/10	AM 8.45	0	20		on charge		
	9.15	20	11		77	795	
	11.15	120	11		82.7	79	
4/15/10	PM 1.15	270	11		85	776	
	3.15	390	11		88	785	
	5.15	510	11		93	805	
	7.15	630	11		96	81.	
	9.15	750	11		97	807	
	11.15	870	11		98	817	
	1.45	900	11	182	885	82	-15 lbs.
			Discharge				
4-15-10	PM 11.48	—	4 min	158			
	.50	2	30	1485			
	.52	2	0	142			
	.55	5	0	1325			
	CP 12.00	10	0	136			
	.10	20	0	133			
	.20	30	0	130.5			
	.30	40	0	130			
	.40	60	0	128	982	82	
	1.40	80	0	127			
	.50	100	0	125			

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
4-15-10	PM 1.50	120	30	122.5	98	84	
	2.10	140	"	122			
	.30	160	"	121.5			
	.40	180	"	120.5	87	84	
	3.10	200	"	120			
	.30	220	"	119			
	.50	240	"	117.5	985	84	
	4.10	260	"	116.5			
	.40	280	"	113.7			
	.50	300	"	112.5	100	812	
	5.00	310	"	111			
	.10	320	"	109.5			
	.30	330	"	107.5			
	.40	340	"	106.5			
	.50	350	"	105			
	.51	351	"	100			-17.5.5
	.52	360	"	96.5	105		
	6.00	370	"	86.5			
	.10	380	"	66			
	.15	385	"	50			-19.3.5
	②						
			Charge 580				
4/15/10	PM 7.35	0	30				
	8.05	30	"		102	86	-15 lbs.
	10.05	150	"		97.5	87	

II

Date	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS Pile	
4-15-10	AM 12.05	270	30	0	96	87.5	
	2.05	390	"		90.5	87	
	4.05	510	"		97.5	85	
	6.05	630	"		98	83	
	8.05	750	"		96	81	
	10.05	870	"		90	77.5	
	:35	900	"	154	92	76.5	-15 hrs.
			"	Discharge			
4-16-10	AM 10.35		open	159			
	:40	0	30	151.7			
	:45	2	"	1445			
	:50	5	"	139			
	11.00	10	"	136.2			
	:10	20	"	133			
	:20	30	"	131			
	:40	40	"	129.5			
	PM 12.00	50	"	129	89	75.5	
	:20	80	"	124.5			
	:40	100	"	123			
	1.00	120	"	121.7	89	75.5	
	:20	140	"	120.5			
	:40	160	"	119.5			
	2.00	180	"	118.5	90	76	
	:20	200	"	117.5			

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Date	Time	Min	Amps	Volts 398	Temps 398	Temps Pile	
4-16-10	PM 2.20	240	30	1165			
	40	240	"	1165	90	76.2	
	3.00	300	"	1159			
	20	280	"	1142			
	40	300	"	1122	92.7	77	
	4.00	320	"	1085			
	.20	340	"	1017			
	.40	340.5	"	1001			
	.45	355	"	992			-17.22
	.40	360	"	86			
	5.00	380	"	52.7	94.7		
	.01	381	"	50			-19.05
	10	390	"				
				after rable	56 hours		
				over Saturday and Sunday			
P.M.				Charge # 581			
4-17-10	8.10	0	30	on charge			
	.40	30	"		74	74	
	10.40	150	"		79.7	75	
4-18-10	AM 12.40	270	"		83	76.5	
	2.40	390	"		77.5	75	
	4.40	510	"		91	76.2	
	6.40	630	"		95	77.5	
	8.40	750	"		92	77.5	
	10.40	870	"		94	77	
	11.10	900	"	183	94	77	-15 hrs.

II. 9

Date	Time	M.M.	Amps	Volts 398	Temp 398	Temp Elec	
			Discharge				
4-15-10	A.M. 11.15	—	Open	1055			
	.15	0	30	1465			
	.17	2	"	1400			
	.30	5	"	1352			
	.35	10	"	1322			
	.33	20	"	1305			
	.40	30	"	1312			
	.45	40	"	130			
	12.15 P.M.	60	"	127	935	78	
	.35	80	"	125			
	.50	100	"	123			
	1.15	120	"	122	902	78	
	.30	140	"	121			
	.50	160	"	120			
	2.10	180	"	1192	905	77	
	.35	200	"	1185			
	.50	220	"	1175			
	3.19	244	"	1162	92	77.1	
	.35	260	"	115			
	.50	280	"	1132			
	4.15	300	"	1115	92	77	
	.35	320	"	1082			
	.45	330	"	1067			
	.50	340	"	1057			

Date	Time	M.M.	Amps	Volts 398	Temp 398	Temp Elec	
11/18/10	A.M. 10.29½	3.4½	30	100			-172.2
	.50	350	"	97			
	.15	360	"	905	96	777	
	.25	370	"	802			
	.35	380	"	64			
	.41	386		50	97	752	-193
			Charge				#552
11/18/10	700	0	30				
	20	30	"		93	75	
	9 30	150	"		922	80	
	11.30 A.M.	270	"		91	81	
11/19/10	1 20	390	"		885	81	
	3 20	510	"		945	812	
	5 30	630	"		87	815	
	7 30	750	"		96	815	
	9 30	870	"		98	81	
	10.00	900	"	1037	99	81	-15 hr.
			Discharge				
4-9-10	A.M. 10.03	—	Open	1552			
	.05	0	30	1482			
	.07	2	"	1417			
	.10	5	"	1387			

I : ①

Date	Time	MIN	Amps	Volts	Temp 398	Temp Elec	
4-19-10	10.10	10	30	1.362			
	.25	20	"	1.24			
	.35	30	"	1.317			
	.45	40	"	1.20			
	11.05	60	"	1.277	96.5	81	
	.25	80	"	1.25			
	.45	100	"	1.237			
	12.05 PM	120	"	1.22	91.2	81.5	
	.25	140	"	1.21			
	.45	160	"	1.20			
	1.05	180	"	1.20	97.	81.2	
	.25	200	"	1.19			
	.45	220	"	1.18			
	2.05	240	"	1.165	97.	81.5	
	.25	260	"	1.155			
	.45	280	"	1.132			
	3.05	300	"	1.115	98.	81.5	
	.15	310	"	1.089			
	.25	320	"	1.07			
	.35	330	"	1.037			
	.45	338	"	1.00			-1.69
	.55	340	"	.984			
	.55	350	"	.917			
	4.05	360	"	.812	97.7	82	N
	.15	370	"	.637			

II ①

Date	Time	MIN	Amps	Volts	Temp 398	Temp Elec	
4-19-10	4.20 PM	75	30	.00	1.327	[illegible]	-1.87.5
			Charge II 783				
4-19-10	5.45 PM	0	30		94	90	
	6.45	60	"		96	88	
	7.45	120	"		92	87	
	8.45	180	"		89	80	
	9.45	240	"		87	78.2	
	10.45	300	"		88	78	
	11.45 AM	360	"		88	78	
4-20	12.45	420	"	1.82	91	77.5	-7.Rs.
			Discharge				
4-20-10	12.48 PM	open	30	1.58			
	50	0	"	1.485			
	51	2	"	1.42			
	55	5	"	1.38			
	1.00	10	"	1.36			
	10	20	"	1.327			
	20	30	"	1.305			
	30	40	"	1.287			
	50	60	"	1.262	90.5	78	
	2.10	80	"	1.245			
	2.30	100	"	1.23			

II ①

Date	Time	Min	Amps	Volts	Temperature 398	Temperature Fdh	
4-20-10	A.M. 2.50	120	30	122	907	78	
	3.10	140	"	1207			
	30	160	"	1205			
	50	180	"	120			
	4.10	200	"	119			
	30	220	"	118			
	50	240	"	1157	94	98	
	5.10	260	"	113			
	30	280	"	1065			
	40	290	"	1.02			
	45	2935	"	1.00	95	78	-146.7
				Discharge #5-84			
4-20-10	A.M. 6.15	0	30	1.573	935	78	
	.17	2	"	1.565			
	20	5	"	1.577			
	.25	10	"	1.567			
	.35	20	"	1.597			
	.45	30	"	1.605			
	.55	40	"	1.615			
	7.15	60	"	1.625	92	78	
	.35	80	"	1.642			
	.55	100	"	1.642			

Date	Time	Min	Amps	Volts	Temperature 398	Temperature Fdh	
4-20-10	A.M. 8.15	120	30	1.662	89	78	
	.35	140	"	1.67			
	.55	160	"	1.685			
	9.15	180	"	1.672	87	757	
	.35	200	"	1.68			
	.55	220	"	1.70			
	10.15	240	"	1.715	857	75	
	.35	260	"	1.747			
	.55	280	"	1.76			
	11.15	300	"	1.792	85	745	
	.35	320	"	1.82			
	.55	340	"	1.832			
	P.M. 12.15	360	"	1.817	85	745	
	.35	380	"	1.837			
	.55	400	"	1.857			
	1.15	420	"	1.86	90	75	- 7 Rs.
				Discharge			
4-20-10	P.M. 1.18	—	Open	1.85			
	.20	0	30	1.69			
	.22	2	"	1.415			
	.25	5	"	1.35			
	.30	10	"	1.36			
	.40	20	"	1.337			
	.50	30	"	1.305			

II ①

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
4/20/10	2:00	40	30	1.229			
	20	60	"	1.262	91	75	
	40	80	"	1.262			
	3:00	100	"	1.225			
	20	120	"	1.222	89	75	
	40	140	"	1.20			
	4:00	160	"	1.20			
	20	180	"	1.195	905	755	
	40	200	"	118			
	5:00	220	"	117			
	20	240	"	115	915	75	
	40	260	"	112			
	6:00	280	"	1011			
	10	290	"	1005			
	12:2	292		100	92	75	-146.2
				Charge	585		
4/20.10	1:20 pm	0	30	1.61			
	22	2	"	149			
	25	5	"	1.602			
	30	10	"	1.607			
	40	20	"	162			
	50	30	"	1.607			

II ①

DATE	TIME	MIN	Amp	Volts 398	TEMPS 398	TEMPS Idle	
4/21.10	8:00	40	30	1642			
	20	60	"	1655	87	75	
	40	80	"	1662			
	9:00	100	"	167			
	20	120	"	1672	867	752	
	40	140	"	168			
	10:00	160	"	1682			
	20	180	"	1685	867	76	
	40	200	"	169			
	11:00	220	"	172			
	20	240	"	1707	875	76	
	40	260	"	1725			
4/21.10	12:00	280	"	1742			
	20	300	"	1775	89	762	
	40	320	"	1805			
	1:00	340	"	1817			
	20	360	"	1825	92	772	
	40	380	"	1822			
	2:00	400	(1875)	192	90	78	
	20	420	"	1834			-7 h.
				Discharge			
4/21-10	2:23	—	open	1582			
	25	0	30	149			
	27	2	"	142			

II (1)

Date	TIME	MIN	AMP	VOLTS 398	TEMPS. 396	1045	
4-21-10	2.30	5	30	1395			
	35	10	"	137			
	44	21½	"	1335			
	55	30	"	128			
	305	40	"	130			
	25	60	"	125	937	78	
	45	80	"	125			
	405	100	"	124			
	25	120	"	122	935		
	45	140	"	122			
	505	160	"	1212			
	25	180	"	1205	94	78	
	45	200	"	492			
	605	220	"	11.845			
	25	240	"	1182	947	78	
	45	260	"	1133			
1/	705	280	"	1.08			
	1.6	290	"	1.04			
	24	299	"	1.00	96	782	-149.5
4-21-10	1.7 820	0	30	change #586 1.54	91	783	

II (1)

Date	Time	MIN	Amps	Volts 395	Temp 398	Temp 1045	
4-21-10	8.22	2	30	1.57			
	.25	5	"	1.577			
	.30	10	"	1.595			
	.40	20	"	1.60			
	.50	30	"	1.62			
	9.00	40	"	1622			
	.21	51	"	1637	912	787	
	.40	60	"	1642			
	10.00	103	"	1645			
	.20	120	"	1652	90	79	
	.40	140	"	166			
	11.00	160	"	1662			
	.20	180	"	167	89	79	
	.40	200	"	168			
	12.00	220	"	170			
	.20	240	"	170	90	797	
	.40	260	"	1.72			
	1.00	280	"	1.742			
	.20	300	"	1.75	905	797	
	.40	320	"	1.81			
	2.00	340	"	1.81			
	.20	360	"	1.842	902	80	
	.40	380	"	1.842			
	3.00	400	"	1.842			
	.20	420	"	1.842	95	802	-78

II ①

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
			Discharge				
4/1/10	P.M. 3:20	–	open	1.557			
	25	0	30	1.55			
	27	2	"	1.525			
	30	5	"	1.495			
	35	10	"	1.467			
	45	20	"	1.34			
	55	30	"	1.315			
	4:05	40	"	130			
	25	60	"	1.299	935		
	45	80	"	1.252			
	5:05	100	"	1.235			
	25	120	"	1.225	92	785	
	45	140	"	1.22			
	6:05	160	"	1.207			
	25	180	"	1.192	915	775	
	45	200	"	1.187			
	7:05	220	"	118			
	25	240	"	1.157	922	777	
	45	260	"	1.122			
	8:05	280	"	107			
	15	290	"	1025			
	25	300	"	100	945	78	-150
	35	310	"	942			
	45	320	"	89			

① B III

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS IDLE	
4-21-10	P.M. 8:55	330	30	137			
	9:05	340	"	695			
	15	350	"	50	97	78	-175
4-21-10	P.M.	Cell disconnected from Charge					
		and idle 4 day. 18 hr. 45 min.					
4-26-10	P.M.	Connected in Endurance					
		for 46 min.					
5-21-10	P.M.	Disconnected from Endurance					
		and idle 3 day 6 hr.					
5-24-10	P.M.	Connected to Charge for the					
		following min.					
			Charge # 63.3				
5/24/10	P.M. 10:20	0	30	Start Charge			
	11:00 A.M.	30	"	86	725		
4/25	1:00	150	"	85	82		
	3:00	270	"	885	80		
	5:00	390	"	89	80		
	7:00	510	"	907	76		
	9:00	630	"	92	765		
	11:00 P.M.	750	"	945	78		
	1:00	870	"	967	792		
	30	900	"	967	797		
	30	900	"	1817			-15 hr.

T3 III ⊘

Date	Time	Min	Amps	Volts 395	Temper 398	Temper 2ell
				Discharge		
5/20/10	6pm 1.23	—	4pm			
	.35	0	30	1.572		
	.37	2	"	1.455		
	.40	5	"	1.365		
	.45	10	"	1.342		
	.55	20	"	1.322		
	2.05	30	"	1.20		
	.15	40	"	1.285		
	.35	60	"	1.262	95	807
	.55	80	"	1.237		
	3.15	100	"	1.217		
	.35	120	"	1.205	95	812
	.55	140	"	1.20		
	4.15	160	"	1.197		
	.35	180	"	1.18	95	825
	.55	200	"	1.175		
	5.15	220	"	1.16		
	.35	240	"	1.152	98	825
	.55	260	"	1.122		
	6.15	280	"	1.105		
	.35	300	"	1.075	101	822
	.45	310	"	1.045		
	.55	320	"	1.001		
	.56	321	"	1.00		— 16 a.m.

Date	Time P.M	Min	Amps	Volts 398	T Temper 395	T Temper 2ell	REMARKS
5-25-10	7.05	330	30	96			
	.15	340	"	88			
	.25	350	"	765			
	.35	360	"	515	1035	82	
	.35	360		50			— 180 a
5-25-10	P.M.		Charge #634				
	8.10	0	30	on charge			
	40	30	"		95	812	
	10.40	150	"		93	815	
5/26/10	AM 12.40	270	"		945	81	
	2.40	290	"		95	807	
	4.40	510	"		91	81	
	6.40	630	"		94	81	
	8.40	750	"		98	805	
	10.40	870	"		98	805	
	11.10	900	"	182	98	805	— 15 a.m.
			— DISCHARGE —				
5/26/10	AM 1113	OPEN	—	156	98	805	
	.15	0	30	145			
	.17	2	"	138			
	.20	5	"	136			
	.25	10	"	134			

BIII ①

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS IDLE	
5/26/10	11.35	20	30	1.32			
	.45	30	"	1.297			
	.55	40	"	1.28			
	PM 12.15	60	"	1.255	975	81	
	.35	80	"	1.23			
	.55	100	"	1.22			
	1.15	120	"	1.205	965	82	
	.35	140	"	1.20			
	.55	160	"	1.19			
	2.15	180	"	1.18	959	83	
	.35	200	"	1.175			
	.55	220	"	1.162			
	3.15	240	"	1.14	98	835	
	.35	260	"	1.12			
	.55	280	"	1.105			
	4.15	300	"	1.062	102	84	54
	.25	310	"	1.017			
	.30½	315½	"	1.00			-1.5.7.7
	.35	320	"	.977			
	.45	330	"	.90			
	.55	340	"	.77			
	.55	350	"	.605			
	5.05½	355½	"	.50	975	845	-1.7.6.7

①

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS IDLE	
			Charge #63				
5/26.10	P.M. 6.00	0	30	1.00	Charge		
	30	30	"		1022	845	
	630	150	"		95	82	
	730	210	"		95	82	
5/27.10	AM 7.30	390	"		94.5	82	
	830	510	"		95	815	
	930	630	"		96	805	
	630	710	"		95	792	
	830	830	"		96	777	
	900	900	"	1.037	96	75	-1.5.R.
			Discharge				
5/27/10	AM 9.03	—	open	158			
	.05	0	30	148			
	.07	2	"	140			
	.10	5	"	136			
	.15	10	"	134			
	.25	20	"	1.32			
	.35	30	"	1.30			
	.45	40	"	1.277			
	10.05	60	"	1.247	95	77	
	.25	80	"	1.225			
	.45	100	"	1.21			
	11.05	120	"	1.20	92	77	

Test ①

Date	Time	Amp	Press	Volts 398	Temp 398	Temp Idle	
5/27/10	1.00 P.M.	140	50	1195			
	.45	160	"	1152			
	2.00	180	"	1172	922	77	
	.25	200	"	1157			
	.45	220	"	1142			
	1.05	240	"	1137	96	77	
	.25	260	"	1115			
	.45	280	"	1082			
	.55	290	"	1062	962	777	
	2.05	300	"	1037			
		307		1005			-153.5
	.15	310	"	.982			
	.25	320	"	.922			
	1.35	330	"	.86			
	.45	340	"	.62			
	.52	347	"	50	947	777	-173.5
5-27-10	P.M.			CHARGE		※ 636	
	4.00	0	50		94	777	
	500	60	"		945	782	
	600	120	"		935	787	
	700	180	"		912	787	
	800	240	"		90	787	
	900	300	"		88	77	
	1000	360	"		882	75	

Date	Time	Amp	Press	Volts 398	Temp 398	Temp Idle	
B-27-10	A.M. 11.00	420	-	1845	889	747	-7.5
	P.M.			Discharge			
5/27/10	11.03	—	open	1552			
	.05	0	30	1467			
	07	2	"	1402			
	10	5	"	1365			
	15	10	"	1345			
	25	20	"	1307			
	35	30	"	129			
	45	40	"	1275			
5/28	12.05 A.M.	60	"	129	866	74	
	25	80	"	122			
	45	100	"	1203			
	1.05	120	"	1207	905	74	
	25	140	"	119			
	45	160	"	118			
	2.05	180	"	1165	91	74	
	25	200	"	116			
	45	220	"	114			
	3.05	240	"	1117	905	74	
	25	260	"	1097			
	35	270	"	1085			
	3.52	277	"	107	90	74	-135.7

B3 ①

DATE	TIME	MIN	AMPS	VOLTS 398	T E 17.85 398	1018
				Stand-alone E days 2 hours run		
				Saturday Sunday Monday		
				Charge 1		
5-30-10	PM 1:00	0	30	1567	78	78
	10	2	"	1623		
	20	5	"	1641		
	30	10	"	1643		
5-31-10	PM 1:00	30	"	1657		
	10	20	"	1663		
	20	40	"	1667		
	30	55	"	1672	82	770
	40	50				
	50	100	"	168		
	00	1.0	"	1665	842	775
	10	1.0		1665		
	20	1.0	"	1672		
	30	1.0	"	1687	865	772
	40	1.0		1677		
	50	230		168		
	00	240	"	1895	88	772
	10	260	"	1725		
	20	280	"	1777		
	30	300	"	180		
	40	320	"	181		
	50	340	"	1.815		

DATE	TIME	MIN	AMPS	VOLTS 398	T E 17.85 398	1018
5-31-10	AM 8:40	260	30	1.81	92	77
	50	360	"	1.85		
	20	400	"	1.82		
	40	420	"	1.825	942	.775
				Discharge		
5-31-10	AM 8:43	—	0 Amp	1.58		
	45	0	30	1.48		
	47	2	"	1.40		
	50	5	"	1.382		
	55	10	"	1.367		
	9:05	20	"	1.32		
	15	30	"	1.29		
	25	40	"	1.26		
	45	60	"	1.25	925	77
	10:05	80	"	1.235		
	25	100	"	1.215		
	45	120	"	1.202	92	765
	9:05	140	"	1.197		
	25	160	"	1.185		
	45	180	"	1.177	92	76
	10:05	200	"	1.6		
	25	220	"	1.47		
	45	240	"	1.12	922	757
	11:05	260	"	107		

-7 Ω

T33 ①

Date	Time	Min.	Amps	Volts	T. Ambient 398	T. Cryostat 398	Cells
5/21/10	AM 11.15	270	30	1.022			
DH	.25	280	"	100	95	75	-140
HW.							
				Charge # 628			
5/21/10	PM 12.45	0	30	1.58	887	745	
	.47	2	"	1.595			
	.50	5	"	1.60			
	.55	10	"	1.602			
	1.05	20	"	1.62			
	.15	30	"	1.605			
	.35	40	"	1.622			
	.45	60	"	1.65	905	75	
	2.05	80	"	1.66			
	.25	100	"	1.672			
	.45	120	"	1.65	87	75	
	3.05	140	"	1.677			
	.25	160	"	1.68			
	.45	180	"	1.685	87	75	
	4.05	200	"	1.70			
	.25	220	"	1.719			
	.45	240	"	1.737	875	747	
	5.05	260	"	1.762			
	.25	280	"	1.802			

Date	Time	Min	Amps	Volts	T. Ambient 398	T. Cryostat 398	Cells
5/21/10	5.15	300	30	1.822	90	75	
	6.05	320	"	1.835			
	25	340	"	1.84			
	45	360	"	1.842	922	752	
	7.15	380	"	1.835			
	25	400	"	1.837			
	1.15	420	"	1.84	95	752	-72.
	P.M			Discharge			
5-21-10	7.48	—	open	1.58			
	50	0	30	1.461			
	52	2	"	1.42			
	55	5	"	1.367			
	8.00	10	"	1.215			
	10	20	"	1.207			
	20	30	"	1.257			
	30	40	"	1.252			
	50	60	"	1.25	92	757	
	9.10	80	"	1.227			
	30	100	"	1.22			
	50	120	"	1.205	902	757	
	10.10	140	"	1.20			
	30	160	"	1.185			
	50	180	"	1.15	93	757	
	11.10	200	"	1.12			

B III D

Date	Time P.M.	Min	Amp	Volts 398	Temps. 398	Temps. Tolle	
5/31/10	11.30	220	30	1145			
	12.50	240	"	112	945	757	
6/1/10	12.11 A.M.	260	"	1057			
	.20	270	"	100	935	757	-1.35
			"				
	A.M.		Charge	639			F 1.V
6/1/10	1.25	0	30	1184	90	757	
	.27	2	"	1175			
	30	5	"	158			
	35	10	"	160			
	45	20	"	1605			
	55	30	"	162			
	2.05	40	"	1625			
	25	60	"	165	90	755	
	45	80	"	166			
	3.05	100	"	1665			
	25	120	"	1665			
	45	140	"	1675	88	754	
	4.05	160	"	168			
	25	180	"	1685			
	45	200	"	1705			
	5.05	220	"	172			
	25	240	"	174	852	75	
	45	260	"	177			

Date	Time A.M.	Min	Amp	Volts 398	Temps. 398	Temps. Tolle	
6/1/10	6.05	280	30	180			
	.25	300	"	182	90	75	
	.45	320	"	183			
	7.05	340	"	1837			
	.25	360	"	184	98	75	
	.45	380	"	1835			
	8.05	400	"	184			
	.25	420	"	184			- F 1.V
				Discharge			
6/1/10	8.28	—	open	158	895	74	
	.30	0	30	148			
	.32	2	"	1407			
	.35	5	"	1377			
	.40	10	"	1342			
	.50	20	"	1317			
	9.00	30	"	1295			
	.10	40	"	1277			
	.30	60	"	1242	87	72	
	.50	80	"	1222			1V
	10.10	100	"	1.21			
	.30	120	"	1.20	877	73	
	.50	140	"	1.197			
	11.10	160	"	1.192			
	.30	180	"	1.177	91	74	

B III ①

DATE	TIME	MIN	AMPS	VOLTS 338	TEMPS 338	TEMPS IDLE	
6/1/10	11.50 AM	200	30	116			
	12.10	220	"	114			
	.30	240	"	111			
	.50	260	"	106			
	1.05	275	"	100	94	75	-137.5
				Charge #640			
	P.M						
6-1-10	2.10	0	30	1542	88	755	
	12	2	"	158			
	15	5	"	1.585			
	20	10	"	1.60			
	30	20	"	1617			
	40	30	"	1.62			
	.55	42	"	1657			
	3.12	62	"	1.645	275	75	
	.30	80	"	1.66			
	.50	100	"	1.655			
	4.10	120	"	1.677	87	76	
	.30	140	"	1.677			
	.50	160	"	168			
	5.10	180	"	1.681	91	76	
	.30	200	"	1705			
	.50	220	"	1722			
	6.10	240	"	1742	88	762	

B III ①

DATE	TIME P.M	MIN	AMPS	VOLTS 338	TEMPS 338	TEMPS IDLE	
6-1-10	6.30	260	30	1772			
	50	280	"	1.802			
	7.10	300	"	1.822	90	762	
	30	320	"	1.835			
	50	340	"	184			
	8.10	360	"	1842	927	762	
	30	380	"	1842			
	50	400		1842			
	9.10	420	"	1842	94	762	-7R
	P.M			Discharge			
6-1-10	9.15	—	open	1852			
	.15	0	130	145			
	.17	2	"	1417			
	.20	5	"	1352			
	.15	10	"	1317			
	.35	20	"	1222			
	.45	30	"	1297			
	55	40	"	1272			
	10.15	60	"	1252	94	76	
	35	80	"	1235			
	55	100	"	1222			
	11.15	120	"	1205	94	76	
	35	140	"	120			
	55	160		118.5			

B III ①

Date	Time P.M.	Min	Amps	Volts 395	Amps 395	Amps Idle	
6/2/10	12.15	180	30	1177	92	765	
	35	200	"	116			
	55	220	"	1165			
	1.15	240	"	1117	962	765	
	35	260	"	1055			
	45	270	"	1007			
	55	280	"	100			-1350.7
	2.05	290	"	965			
	15	300	"	905			
	25	310	"	74	967	765	
	35	320	"	592			
	40	325	"	50	97	765	-1625
6-2-10	PM	Disconnected from Ford					
		Armature idle indefinitely					
	2.30						

A4 #398.

Run	Charge	Dis.	Ampere-Hours 1V.	Ampere-Hours 5V.	Remarks
	See Runs*		1-165 in	Vols. I and II	
166	7 hrs. @ 30	Ot 40	153.3	182.7	
167	"	"	152	184.7	
168	"	"	153.3	186.7	
169	"	"	133.3	170.7	Rested charged 36 hr.
170	"	"	153.3	186.7	
171	"	"	153.3	186.3	
172	"	"	153.3	185.3	
173	"	"	153.3	187.3	
174	"	"	154.7	186.7	
175	"	"	150	184	
176	"	"	146.7	183.3	
177	"	"	152	184.3	
178	"	"	155.7	185.3	
179	"	"	149.6	182.3	
180	"	"	127.3	182.3	Stand. charged
181	"	"	152	182.3	
182	"	"	152	183.7	
183	"	"	155.3	184.7	
184	"	"	153.3	183	
185	"	"	152	182	
186	"	"	156.3	185	
187	"	"	153	182.7	
188	"	"	153.3	182.7	
189	"	"	154	183	

Run	Charge	Dis.	Ampere-Hours 1V.	Ampere-Hours 5V.	Remarks
190	7 hrs. @ 30	Ot 40	153.3	182	
191	"	"	137.3	170	Stand. charged. (Injules 50 mins)
192	15 hrs @ 30	Ot 30	199.5	226	
193	"	"	202	225.5	
194	"	"	205	227.5	
196	7 hrs. @ 30	Ot 40	158.7	168	
197	"	"	163.3	176.3	
198	"	"	165	182.7	
199	"	"	146.7	166.3	Stand. charged
200	"	"	162	177.7	
201	"	"	165.3	183.3	
217	7 hrs. @ 30	Ot 40	151.3	178.3	
218	"	"	154	180	
219	"	"	130	165.7	Stand. charged
220	"	"	146.7	176	
221	"	"	153.3	180	
222	"	"	151.7	177.3	
239	7 hrs. @ 30	Ot 40	148	168	
240	"	"	154.7	175	
241	"	"	125.3	153	Stand. charged
242	"	"	147.7	170.7	
243	"	"	150	169.7	
244	"	"	149.3	169.3	(50 Stand. mins)

Run	Charge	Dis.	#398 1V.	#398 .5V.	Remarks
245	15 hrs. @ 30	Oct 30	192.5	210.7	
246	"	"	185	204.7	
247	"	"	195	204.5	
248	7 hrs. @ 30	"	163.5	—	
249	"	"	166.5	—	
250	"	"	165.5	—	
	Removed electrolyte and washed cell free of sediment with 2 l. of KOH; then put in 2 l. of KOH + 30 g. LiOH per liter.				
251	15 hrs. @ 30	Oct 30.	195	218.5	
252	"	"	198	215.7	
253	"	"	199.2	215.5	
254	7 hrs. @ 30	"	163.5	—	
255	"	"	170.5	—	
256	"	"	174	—	
257	"	"	179.5	198.5	
258	"	Oct 40	161.3	176.7	
259	"	"	165.3	183.3	
260	"	"	162.3	181.7	
261	"	"	166.7	180.7	
262	"	"	161	180.3	
278	"	"	149.7	166	
279	"	"	130	153.7	Stood chg'd
290	"	"	144.7	164.7	
291	"	"	150.7	170	
292	"	"	151	170.7	(Zn. Ind. Lamp)

Run	Charge	Dis.	#398 1V.	#398 .5V.	Remarks
293	15 hrs. @ 30	Oct 30	191.7	212.5	
294	"	"	188.5	210.5	
295	"	"	188	210.5	
296	7 hrs. @ 30	"	153.2	—	
297	"	"	147.7	—	
298	"	"	165.	—	
299	"	Oct 40	164.7	196	
300	"	"	153.3	181.7	
301	"	"	155.3	181.3	
302	"	"	148	167	
303	"	"	153.3	173.3	
303	"	"	144.7	165.7	
303	"	"	150	170.7	
304	"	"	143.7	163.7	
305	"	"	144	165.3	
306	"	"	143.3	164.3	(21 C.R.)
307	15 hrs. @ 30	Oct 30	176.7	194	
308	"	"	181.7	205.5	Pure nickle
309	"	"	180.7	202.7	
310	7 hrs. @ 30	"	156.5	—	
311	"	"	159.5	—	
312	"	"	158	187	
313	"	Oct 40	153.3	180	
314	"	"	151.3	175.3	
315	"	"	148	170.3	

RUN	CHARGE	DIS.	398 IV.	398 .5V.	REMARKS
316	7 hrs. @ 30	At 40	123.3	155	Stood chg'd each
317	"	"	148	171.3	
332	"	"	138.7	160.7	
333	"	"	145.3	165.3	
334	"	"	146	166	
335	"	"	146.7	165.7	
336	"	"	132.5	161.7	Stood chg'd 36 h.
355	"	"	142	160	
356	"	"	146.7	164.7	
357	"	"	141.3	160.	
358	"	"	132	154.7	Stood chg'd 36 h.
359	"	"	140	159.3	
360	15 hrs. @ 30	At 30	174	192	
361	"	"	171.5	191	
362	"	"	175.5	193	Pow. sulle
363	7 hrs. @ 30	"	146.5	—	
364	"	"	150	—	
365	"	"	146.5	171.5	
366	"	At 40	151.3	172.3	
367	"	"	130.	152.7	Stood chg'd
368	"	"	146.7	166.7	
369	"	"	146.7	170.	
370	"	"	141.3	160.	
408	"	"	143.3	162.	
409	"	"	139.3	159.7	

RUN.	CHARGE	DIS	398 IV.	398 .5V	REMARKS
410	7 hrs @ 30	At 40	140.	156.7	
411	"	"	140.7	157.	
412	"	"	135.3	150.7	50 C.R.
413	15 hrs @ 30	At 30	170.	189.5	
414	"	"	177.5	195.5	
415	"	"	175.5	193.	
416	7 hrs @ 30	"	147.5	—	
417	"	"	149.2	—	
418	"	"	149.5	—	
419	"	"	151.7	175	
	Put in 2.1% KOH + 1.2 g KOH per liter				
420	15 hrs @ 30	At 30	187.7	204	
421	"	"	178.	196.7	
422	"	"	176.	195.7	
423	7 hrs @ 30	"	150	—	
424	"	"	154.5	—	(10 min. overchg'd)
425	"	"	153.2	177.5	
426	"	@ 40	152	175	
427	"	"	138.3	157.3	
428	"	"	140	156.7	
429	"	"	141.7	163.3	
430	"	"	137.7	157.3	
468	"	"	133.3	153.3	
469	"	"	137.3	159.3	
470	"	"	133.3	158.7	

TUN	CHANGE	MIN	STD IN	STD OUT	REMARKS
471	7 Hun@30	@40	137.3	153.3	
472	"	"	133.3	148.7	
473	15 Hun@30	@30	177.5	195	TREV. IDLE
474	"	"	177	197	
475	"	"	175	191.5	
476	7 Hun@30	"	150.5	—	
477	"	"	153.5	—	
478	"	"	151.5	—	
479	"	"	152	146.5	
480	"	"	132	152	
481	"	"	133.3	153.3	
482	"	"	133.3	151	
483	"	"	138	153.3	
484	"	"	133.3	149	
521	"	"	131	144.7	
522	"	"	134.7	137.7	
523	"	"	127.7	145	TREV. IDLE
524	"	"	—	—	TRANSITUN
525	"	"	134	149.3	
526	15 Hun@30	@30	170	189.3	
527	"	"	178	196	8 MIN. OVERCHARGE
528	"	"	137.7	153.3	
529	7 Hun@30	"	144.7	—	TREV. IDLE
530	"	"	144	—	
531	"	"	154.5	—	

TUN	CHANGE	MIN	STD IN	STD OUT	REMARKS
532	7 Hun@30	@30	153	175	
533	"	@40	128	147.3	
534	"	"	126.7	146	
535	"	"	127.3	147	
536	"	"	132.3	155.3	
537	"	"	140.7	157.7	
576	"	"	140	160	
577	"	"	142.7	159.3	
578	"	"	140	160	
579	15 Hun@30	@30	175.5	193.5	TREV. IDLE
580	"	"	172.2	190.5	
581	"	"	173.7	193	TREV. IDLE
582	"	"	169.7	187.5	
583	7 Hun	"	146.7	—	
584	"	"	146.2	—	
585	"	"	148.5	—	(TRANS. to line)
586	"	"	150	175	
587	"	@40	138	160	TREV. IDLE
588	"	"	140	155	
589	"	"	137.7	154.7	
590	"	"	138	153.3	
629	"	"	137.7	153.3	
630	"	"	134.7	152.3	
631	"	"	133.7	152.7	
632	"	"	134.7	151.7	

Analysis by Goldstein of the Electrolyte Removed from A4 #398 7/12/09, after 250 Runs.

Electrolyte put in originally was 21 % KOH + 120 g SiOH per cell.

Specific Gravity 1.165 at 15 °C.

Direct Determinations:

Total Alkalinity as KOH	17.920 %
KOH	14.960 "
SiOH	1.350 "
CO_2	0.475 "
SO_3	0.1630 "
HCl	0.0075 "

Calculated:

K_2CO_3	2.110 %
K_2SO_4	0.350 "
KCl	0.015 "

Sediment (removed by rinsing):

Total weight 42.852 g.

Contains Hg, HgO, Ni, NiO, and Fe_2O_3. Also Fe, K, + Na in the Hg as amalgams.

Hg constitutes about one-half the total weight of sediment.

Run	Charge	Dis.	3.7.8. Ir.	3.7.8. Ni	
633	16 @ 3	@ 3	160.5	180.3	Temp. Dec
634	- -	-	157.7	176.7	
635	- -	-	153.5	173.5	
636	7h -	-	135.7	-	
637	- -	-	160	-	Temp. Dec
638	- -	-	135	-	
639	- -	-	137.5	-	
640	- -	-	135.7	162.5	

For further runs see Vol. IV

Notebook, N-09-05-20

May 20, 1909

ENDURANCE BOOK —

Originated on the above date as a book in which to record readings of all "D4" cells connected in the Endurance Section for durability test in series.

The previous readings of each cell or group will be found in its individual record book.

Cells in this section get two runs per day on a regular schedule, as follows:

4.55 A.M. and P.M. — On charge for 7 hours at 30 amperes.

12.00 NOON and NIGHT — On discharge at 40 amperes, — each cell to be short-circuited when it reaches .50 volt.

Hourly temperature reading will be taken in one cell of each group.

DATE	TIME	MIN	HRS	404	488	481	452	483	396	398		466	467	468	478	479	480	TEMP Bdlr
	Change			122	75		(93)		(157)	198			(104)		106		(104)	
5/20/09	4.55	0	20	110	111.		70.		120.7	112.			119.				114.2	72.5 Temp.
	5.55	60	"	109.	107.5		74.		110.7	111.5			113.				108.7	72.5 "
	6.55	120	"	101.5	102.2		81		103.	105.5			107.				103.	72.5
	7.55	180	"	99.5	100.		84		100.5	103.2			103.2				101.2	72.5 "
	8.55	240	"	96.5	97.5		86.7		96.5	100			100.7				98.7	73 "
	9.55	300	"	95.2	96.2		88.2		95.	98.7			100.				97.5	73 "
	10.55	360	"	95	96		91		95.2	98			100				97.5	72.5 "
	11.55	420	"	94.7	96.5		91.7		95.7	97.5			100.2				97.7	72.5 "
	11.55	420	"	100.2	129	125	125.7	125	121	129.5		127.5	127	129	127	129	129	
5/21	12.00	0	20	144	142.7	142.5	141	141	142	142		142.2	140	139	139.2	139		
	.20	4	"	133	133	133	132.2	132.2	135	135		133.7	133.7	133	133	133	133	
	.40	20	"	131	131	130.2	130.2	131	132.2	132		131.5	131.5	131	131	131	131	
	.40	20	"	128.2	128.2	128	127.7	127.7	127.7	127.5		129	129	129	128.5	128.2	128.2	
	.40	20	"	128.5	128.5	128.5	128.2	128.2	128.7	128.5		128.5	128.5	128	128.5	128.5	128.5	
	1.00	60	"	122.2	122	122	122.5	122.2	122	122.5		122	122.5	122	122.5	122.5	122	
	1.00	60	"	98	99.5		96.7		97.5	100			102.7				100.2	72.7 Temp
	1.20	80	"	120.2	120	121	121	121	121	120.2		121.5	121.5	122	121	121	120	
	1.40	100	"	119.	118.	120	120.	120.	119	118.2		120	120	121	119.5	119.	119.2	
	2.00	120	"	117.2	117.	118.5	119	119.	118	117.5		118.5	119	120.5	118.5	118	117	
	2.00	120	"	98.2	100.2		99.		96.5	100.2			104.5				101.2	71.5 Temp
	1.20	140	"	116.2	115.5	117.5	117.5	117.	117	116		117.5	118	119	117	117	116.5	
	1.40	160	"	115	113.7	115.7	116	116	115	114		116	116	117.7	115.7	115	113	

DATE	TIME	MIN	AMPS	404	488	481	482	483	396	398		466	467	468	478	479	480		
5/21/19	2.00	160	40	112.5	111	114	114	114	113	111.7		114	113.5	113	112.7	113	113.5		
	2.00	160	"	101	104		102.5		100	102.5			100			103.27		71.5	Temp.
	.25	2.00	"	109.7	105	112	111.7	111.7	110	105		111	112	114	111	109.7	105.5		
	.30	2.10	"	107	106	110.5	110	110.2	108	105.7		109	112.2	112.2	109	107.7	104		
	.40	2.20	"	109.5	105.5	109	109.2	110.5	110.5	113		105.5	111.2	111	107	105	111		
	.45	2.25	"														113		150
	.50	2.30	"	111	100	107	106.5	106.2	106.7	100		105.5	105.5	106.5	108	106.7	98.2		153.3
	.55	2.35	"	100					103							100			156.
	4.00	3.40	"	97.5	95.7	97.2	102	102	96.5	92.7		99	102.3	102.2	102	95	95.7		160.
	4.00	3.40	"	104	107		104.3		103.5	105			110			105.7		72	Temp.
	.10	3.50	"										100						160.3
	.20	3.60	"											110					161.
	.20	3.60	"				100	103											164.3
	.25	3.65	"											50					165.7
	.25	3.65	"			110													166.
	.30	3.70	"	93	97.2	102	97.5	92	95	92		97.2	97.7		95	93	92		166.7
	.35	3.75	"										50						170.
	.40	3.80	"												50				170.7
	.45	3.85	"																171.7
	.50	3.90	"	96	97.7	97	95	95.7		95.2		97				95	97		173.7
	.55	3.95	"					50											
	.55	3.95	"						50										
	.60	4.00	"		109.5	109	106.7	107.5	105.5			110	113.5	112.2	106.7			72	Temp.
	.65	4.05	"									50							176.5
	.65	4.05	"		50	50													
	.70	4.10	"																176.7
	.70	4.10	"																178.
	.75	4.15	"	57.7			50									58	77.5		
	.75	4.15	"	50															180.7
	.80	4.20	"																181.7
	.80	4.20	"													50			182.7
	.85	4.25	"	107.5					50										
	.85	4.25	"						107							109.2		72	Temp.
	.90	4.30	"														57		
	.90	4.30	"														50		188.3
	.95	4.35	"														107.7	72	Temp.

DATE:	TIME	MIN	AMPS	404	408	481	482	483	396	398		466	467	468	478	479	480	1065	
5/21/74	change			123	76		(94)		158	189		(105	127		(107				
	4:55	0	30	110.5	114.7		114		112.5	110.7		114			112.5		72	Temp	
	5:55	60	"	116.5	118.7		116		120.5	120.7		111.2			118		71.2	"	
	6:55	120	"	102.7	102.7		102		101.7	102.5		104			114.5		71		
	7:55	180	"	99	102		99.7		97	102.5		103			103.7		70.7		
	8:55	240	"	96	98.5		97		95	98.2		101			98.2		70.5		
	9:55	300	"	94	97.7		96.2		93.5	96.5		99.2			96.7		70.7		
	10:55	360	"	93.2	96.5		94.7		93	96.5		98.5			96		70.7		
	11:55	420	"	94	96.7		95		94	96		98.7			96		71		
	12:55	480	"	183	179	182.2	178.5	178	177	182.7		182.7	178.5	179.2	178.2	177.5	176.2		F.P
									change										
5/21	12.00	0	40	142	141.2	140.2	139.7	139.5	142.2	141.7		139.7	139.7	139.7	138.5	138.2	138		
	.04	4	"	134	133.7	133.	133	132.7	136	135.5		134	134.2	134	133.7	133.7	133.5		
	.10	10	"	131.4	131.5	130.7	130.5	130.2	132.5	132.7		131.7	131.7	131.5	131.2	131.2	131		
	.20	20	"	128.5	128.2	127.7	127.7	127.7	129.7	129.2		128.5	128.5	128.2	128	128	127.7		
	.40	40	"	123	122.2	122.5	122.7	122.5	126	125.5		127.7	125.7	125.7	125.5	125.5	125.2		
	1.00	60	"	122.5	121.7	122.5	122.5	122.2	123.7	122.5		123.5	123.2	124	122.5	122.5	121.7		
	1.00	"	"	96.7	98.2		98.2		96.5	98.5			97			99.2		71	Temp
	.20	80	"	120.2	120.2	121.7	121.2	121.2	121	120.5		121.2	121.7	122.7	121	120.7	119.7		
	.40	100	"	119	119.7	120.	120	120	119.5	119		120.2	120	121.2	119.7	119	119.7		
	2.00	120	"	117.7	117	118.7	119	119	118.7	117.7		119	119.	120.2	118.7	118.	118.7		
	2.00	"	"	97.	102.5		101.7		98.7	101.			103.7			100.7		71	Temp
	.20	140	"	116.7	116.2	117.7	117.2	117.2	117	116.2		117.	118	119	117.2	116.5	115.		
	.40	160	"	115.2	115.7	116.7	115.7	115.7	116.	115.		116	116.7	117.7	115.7	115.2	113.		

DATE	TIME	MIN	AMPS	464	465	466	482	483	396	398		466	467	468	478	479	480	TEMP Side	
5/21/09	3:00	180	40	1.135	1.117	1.14	1.137	1.14	1.142	1.122		1.142	1.15	1.162	1.14	1.132	1.102		
	3:00	"	"	1.00	1.07½		1.037		1.002	1.027			1.06			—		71	Temp
	:2	200	"	1.097	1.08	1.112	1.105	1.11	1.11	1.085		1.11	1.117	1.127	1.105	1.092	1.06		
	:30	210	"	1.072	1.052	1.09	1.08	1.09	1.087	1.057		1.09	1.10	1.12	1.087	1.07	1.027		
	:40	220	"	1.045	1.03	1.077	1.062	1.076	1.062	1.027		1.064	1.08	1.107	1.062	1.037	1.00		146.7
	:50	230	"	1.019	1.00	1.06	1.042	1.047	1.025	1.002		1.04	1.06	1.09	1.042	1.012	972		153.3
	:51	231	"							1.00									154.
	:53	233	"													1.00			155.3
	:53½	233½	"	1.00															155.7
	:57½	237½	"						1.00										158.3
	4:00	240	"	972	95	1.03	1.01	1.025	982	967		1.00	1.01	1.022	1.00	97	94		160.
	4:00	240	"	1.037	1.07		1.07		1.025	1.06			1.09.2			1.04		71	Temp
	:03	243	"				1.00						1.00						162.
	:04	244	"											1.00					162.7
	:05	245	"					1.00											163.3
	:07	247	"			1.00													164.7
	:10	250	"	93	89	977	957	962	905	93		937	877	× 0	87	925	907		166.7
	:16½	256½	"										.50	✓	.50				171.
	:20½	260½	"					.50							✓				173.7
	:21	261	"	86	.68	.76	8.7	.50	✓	857		.75				832	85		174.
	:26	266	"		.50	.50		✓											177.3
	:27½	267	"			✓	.50					.50							178.
	:30	270	"	.537			✓			.65		✓				.545	.545		
	:31	271	"	.50												.50			180.7
	34½	274½	"							.50						✓			183.
	41	281	"							✓							.558		187.3

DATE	TIME	MIN.	AMPS	404	488	491	492	493	396	398		466	467	468	478	479	480	TEMP Dallas	
	Charge			124	77		(95)		159	190		(106)		108		(108)			
5/21/09	PM 4.55	0	30	113.2	117.		115.		112.2	114.7			116.5			113.2		71.	Temp
	5.55	60	"	107.2	112.		109.		107.2	111.			112.2			109.		71	"
	6.55	120	"	103.	108.5		105		103	107.			109.			104.7		71.2	"
	7.55	180	"	99.5	104.		101.5		99.	102.5			105			101		71.2	"
	8.55	240	"	96.5	99.5		97.7		95.7	99.5			101.5			98.5		71.5	"
	9.55	300	"	95.5	98.2		96.7		94.7	98.2			100.7			97.5		72	"
	10.55	360	"	94.5	97.2		96.		94.	97.2			99.5			96.7		72	"
	11.55	420	"	95	98		96.2		95.7	97.5			100.2			97		72	"
	11.55	420	"	120.	127.	120.2	125.		126.	128		127.	127.7	127.	127.	127.2	127.2		
							Discharge												
5/22	AM 12.00	0	40	146	145	143.7	143.7	145	145.5	144.7		143	143.7	143.7	142.7	143.7	143.		
	.05	4	"	134	133.7	133	133	133	132.7	132		134.2	133.7	133.2	132.2	133	133.7		
	.10	10	"	131.5	131.5	131	131.7	131	133	133		132.2	132	132	132	132	132		
	.20	20	"	128.5	128.2	128	128.2	128	128	128		129	129	128.5	129	129	129		
	.40	40	"	125.5	125	125	125.5	125	126	126		126	126	126.7	126.7	126.7	126.5		
	1.00	60	"	122.5	123	122	123	123	123.5	123		123.7	123	124	123	123	122.2		
	1.05	65	"	95	133.7		100		97.7	100			102.5			100.2		72	Temp
	.20	80	"	133.7	120	121	121.5	121	121	120.7		121.7	122	122	121	121	120		
	.40	100	"	119	119.2	120	120	120	119.7	119		120	120	120.7	120	118.5	119.2		
	2.00	120	"	115	116.5	118	118.5	118.5	118.5	117.5		119	119	120	119	119.2	117		
	2.00	120	"	99	103		101.7		99.7	100.7			104.5			101.7		72	Temp
	.20	140	"	116.7	115	117	117	117	117	116		117.5	117.5	117	117	117	115.5		

DATE	TIME	MIN	AMPS	404	408	421	482	483	394	398		466	467	468	472	479	420	TEMP. Bdl	
5/22/07	2.00	100	40	115.5	112.5	112.5	116	115.7	116	114.5		116	116.5	116	116	115.7	113.7		
	2.30	130	"	113	111	113	112.2	113	113.7	112		114	115	113.2	114	113	113.2		
	3.00	160	"	101	104		104		99.5	102.7			105.7			102.5		71	Temp.
	.20	200	"	109	107	110	109	112	110.2	108		111	112	111.5	111	105.7	105		
	.40	220	"	104	102	106.2	105	107	106	102.5		106.2	105.2	111	107	105	103.5		
	.47	227	"		100												100		148.3
	.50	230	"	100	97.7	114	101.7	114	102.5	100		103	105	105	106	111	97.5		150.
	.55	235	"													100			153.3
	.58	238	"				100		100										156.7
	4.00	240	"	97	97.7	101	98	111	95	96		100	100	101	100	97.5	94.2		157.3
	4.01	241	"	102.2	100.7		104.7		102	104.5			103.5	100		100.5		71	160.
	.11	241	"																Temp.
	.15	245	"																160.7
	.20	250	"			100		100											162.3
	.24	254	"																162.7
	.27	257	"									97.7	92	50					165.
	.30	260	"	92	96	94	97.7	92	97.7	91					98.5	92	90.5		Temp.
	.32	262	"										50						170.
	.35	265	"											50					171.
	.36	266	"										111	109.5	105.5			71	Temp.
	.39	269	"					50											173.
	.40	270	"	85	75.5	75	71		50	84.5		75	✓	✓	✓	85	86		173.3
	.42	272	"			50													174.3
	.43	273	"				50												175.3
	.45	275	"		50														175.7
	.53	283	"									50							176.3
	.54	284	"																
	.55	285	"		110.5	110	109.5	109.5	105			108						71	Temp.
	.57	287	"	50								✓							179.7
	.58	288	"			✓	✓	✓	✓	58.2						57.7	72.5		
	.59	289	"							50						50			181.3
	5.03	303	"																182.
	.35	335	"	106						106.5						110		71	
	.45	345	"							✓						✓	50		184.7
	.46	346	"														107.5	71	Temp.
																	✓		

DATE	TIME	MIN	AMPS	404	488	481	482	483	396	398	466	467	468	478	479	480	TEMP Adk
5/22/09		Discharge		126	75		(78)		120	130		(102)	109		119		
	AM 4:25			121	112		114.5		112.5	110		114.2			114.5		70.7
	5:25	60	"	105.5	111.5		107.7		100.2	113		112.7			112.7		70
	6:25	120	"	103	107.7		102.7		100.2	106		107.5			105.2		70
	7:25	180	"	98.5	103		98.5		97.5	101		103.7			100.2		70
	8:25	240	"	95.5	98.7		96.2		93.5	97.7		100.2			97		70
	9:25	300	"	93	96		94.7		91.7	96		98.5			95		69.7
	10:25	360	"	92	95		94		91.5	94.5		97.7			94.2		69.7
	11:25	420	"	92.2	94.2		93.2		92.5	94.7		98			95		68.2
				121	127.2	127.2	126	127	128.2	127.2	127	127.2	127.2	127.2	127	127.7	
		Stand - this was (24) hours									Cover during test						
		Discharge															
5/27	AM 12:00	0	40	125	127	127	126.2	126.2	129.5	127.2	126	126.2	126.2	126.5	126.7	127.7	69
				124.2	79		69.5		69.7	69.5		69.7			69.7		
	1:04	0	"	121.7	121	121.7	122	122	122.5	122.7	127.7	127.7	122	122	122	122	
	1:10	10	"	121	119	120	120	120	122	121.5	121	119.7	120	121	120.7	121.5	
	1:20	20	"	119	117.7	119	119	119	121	120	119.5	119.5	119.7	121	119.5	119.5	
	1:40	40	"	117	115.7	117.5	117	117.5	119.5	117	117	117	117.7	117	117.7	117	
	1:50	50	"	116.2	115	117	117	117	117.5	116.2	117.2	117	117.2	117.2	116.5	116	
	2:00	60	"	78.7	79		79		78.7	78.5		79.5			79		69.5
	2:20	80	"	115.5	117.7	115	116.2	116.2	116.5	115	115.7	116	117.7	116.2	115.7	116	
	2:40	100	"	115	113	115.5	115.5	115.7	115.7	114	115	115.5	117	116	115	114	
	3:00	120	"	114	115	114	114	114	115	113	114	114.5	116	114.7	114.7	113	
	3:00	120	"	85.5	88		86.5		85.7	86.7		87.5			87		69.5

DATE	TIME	MIN	AMB	464	482	481	482	483	396	398		466	467	468	478	479	480	Temp Data
5/29/53	2:20	145	45	112	111	112.2	112.7	112	112.7	111.7		112.2	114	115	115	112	111	
	40	125	"	111	108	112	112.7	112.2	112	112.5		112	112.2	112.7	112.7	111	112.7	
	50	115	"	111	107		108.2		108								107	
	3:10	105	"	113	112	112.7	113	108	109.7	112.2		108.7	109.7	112	112	111	112.2	
	0:0	115		97.7	94		93		97.5	97.5			94			94		97.7 Temp
		110	"	102	100	102.5	102.5	117	108	99.2		102.5	102.7	102	102	102	102	
		125	"	102.2	102.7	102	102.7	102.5	102	102.7		102.7	108	102.2	102.2	102.5	102.7	- 135
		7:05								100								- 137.3
		5:57			100													
		2:12		110	99	103	102.5	102.5	102	99.2		102.5	102	102.7	102.7	102.2	99.7	- 145
		1:17			100		103											
		7:20	"	111	97.5	110	97.5	102.5	101	99.2		102.7	102	102	102.2	102	99	- 147.7
		1:10													102			- 147.7
		2:10		102				102										- 149.7
		2:35										102	102	102				- 151
		2:35		95	95.5	95.7	97	95.5	95.5	95.5		95.5	95.5	95.5	95.5	95	95.5	- 154.3
		2:35												50				- 159
		2:35											50					
	4:0	2:35		92	93.7	90	90.7	92.5	91	95		93.5			92	93	93	
		2:35											102.7	104.7	102.7	99.2		70 Temp
		2:35		97	100.5		100.5		97	97.5					50			- 162.3
		2:35											✓	✓				- 163
		2:35				50		50							✓			- 164
		2:35					50		50									- 164.3
		2:35			50							50						- 166
		2:35		101.5			✓			49						99.5	97	
		2:35				103		103	✓			101.5						70 Temp
		2:35								50		✓						- 170
		2:35		50	✓		✓									50		- 170.3
		2:35		99.7						101						103	97.0	Temp
		2:35														✓	50	- 170.3
		2:35								✓							103	97.0 Temp
		2:35															✓	

Calls 396 & 398 will now run on regular large call board for several 15 hour charges. See results in regular books.

DATE	TIME	MIN	AMPS	464	468	491	492	493	466	467	468	478	479	480	TEMP Bulb	
5/24/10	[illegible]	1.5	[illegible]	126	79		(97)		(108)		110		(110)			
	4:55	"	120	123	1124		122.5			102.5			124		70	
	5:55	60	"	122	77		102.5			102.5			103		70	
	6:55	120	"	98	1120		97.5			97.5			98		72.5	
	7:55	180	"	96.2	101		96.5			97			97		70	
	8:55	240	"	94.5	98		95.5			94.5			94.5		70.5	
	9:55	300	"	94	98		94.5			95.5			95		71.2	
	10:55	360	"	94.2	97.3		95			96			95.5		72.5	
	11:55	420	"	96	98.2		96			98.2			96.7		73	
				1801	1761	1207	1202	1.761	1802	1.79	179	1777	1.782	179	VOLT READING	
5/24/09	Discharge			126	79		97		108		110		110			
	1200	0	40	1142	1132	1124	1142	1.17	1.13	1132	1127	1.17	1.11	1.16		
	:04	4	"	1205	1202	1197	1212	1.21	1.20	1202	1202	1207	1207	1245		
	:10	10	"	1205	1205	120	1201	1.20	1.201	1312	121	1.21	121	1207		
	:20	20	"	1292	128	1277	128	1277	1282	1287	1287	1287	1282	1292		
	:40	40	"	1202	125	1247	125	1247	1252	1257	126	1252	125	1242		
	1:00	60	"	1222	1217	1215	1227	1225	1227	1232	124	1225	1222	1217		
	1:00	"	"	99.5	103		101.5			103			101.5		74.5	Temp.
	:20	80	"	120.5	1199	121	1212	121	1207	1217	1225	121	1207	1199		
	:40	100	"	1192	118	120	1202	120	1197	1202	122	120	1195	1182		
	2:05	125	"	118	1162	1182	1185	1182	1182	1172	1202	1185	118	1165		
	2:05	"	"	1067	1062		105			1067	1067		104		75.2	Temp.
	:20	140	"	116	1145	1165	1165	1167	117	118	119	117	1165	1145		
	:40	160	"	1147	1127	1145	1145	1145	1145	1162	1177	1145	1145	1132		

DATE	TIME	MIN	AMPS	464	482	481	482	483	466	467	468	478	479	480	TEMP Idle	
5/24/09	3:00	180	40	1.125	1.102	1.125	1.122	1.127	1.135	1.145	1.16	1.137	1.127	1.102		
	3:00	"	"	1.06	1.09		1.087			1.10			1.064		757	Temp.
	12:00	200	"	1.09	1.064	1.097	1.087	1.10	1.10	1.12	1.137	1.102	1.084	1.06		
	1:30	210	"	1.064	1.04	1.082	1.062	1.082	1.08	1.102	1.122	1.09	1.072	1.032		
	1:40	220	"	1.032	1.01	1.062	1.044	1.062	1.045	1.08	1.064	1.062	1.042	1.002		
	1:50½	225½	"											1.00		149
	1:54½	229½	"		1.00											149.7
	2:00	230	"	1.002	.98	1.042	1.022	1.04½	1.022	1.047	1.082	1.04½	1.012	.98		
	2:01	231	"	1.00									1.00			154.
	2:15	233½	"						1.00							156.
	2:25½	233½	"													157.
	2:27½	237½	"				1.00									158.3
	2:29½	239½	"									1.00				159.7
4/100	2:40	"	"	.97	.967	1.01	.987	1.007	.977	1.00	1.00	.987	.977	.952		160
	4/100	2:40	"										111		762	Temp.
	1:02½	2½0	"	1.10	1.13		1.14			1.152						161.7
	1:03½	2½½	"					1.00								162.3
	.07	247	"			1.00										164.7
	1:10	250	"	.927	.964	.925	.922	.902	.91	.80	.50	.78	.925	.922		
	1:14	254	"							.50						169.3
	1:15	255	"								✓	.50				170.
	1:17½	257½	"					.50				✓				171.7
	1:19½	259½	"			.50				✓						173.
	.20	260	"	.879	.624	✓	.50	✓	.68				.857	.897		173.3
	.22	262	"		.50											174.7
	.23	263	"				✓		.50							175.3
	.30	270	"	.50					✓				.652	.762		180
	.31	271	"										.50			180.7
	.32	282	"											✓ .50		184.
														✓		

DATE	TIME-MIN	AMB.	404	488	481	482	482	486	467	468	478	477	480	TEMP IDLE	
5/34	Discharge	#	127	80		(98)		(109)		111		(111)			
	PM 4/55	0	30	115.5	120		121		122.7			119.5		76.5	Temp
	5/55	60	"	115.5	119.		114.2		116.			113.5		76.5	"
	6/55	120	"	108.5	112.5		107.2		109.5			107.5		77.	"
	7/55	180	"	105.7	109.2		103.7		107.5			105.		76.7	"
	8/55	240	"	102.7	106.		102.		104.			103		76.2	"
	9/55	300	"	100.	103.5		99.5		102.2			101.7		74.7	"
	10/55	360	"	99.5	102.2		99		100.7			99.7		74.5	"
	11/55	420	"	99	102		99		100.7			99.5		74	"
	11/55	480	"	178.5	176	179.5	174.5	175.7	170	178.2	179	177	178	178.5	VOLT READING
						Discharge									
5/25	P.M. 12.00	0	40	145	140	143	141.5	141.7	142.7	142.2	142.5	140.2	141.2	139.7	
	.04	4	"	133.7	133.7	132.5	133	132	134	134.2	134	133.7	134	133.7	
	.10	10	"	131.7	131.7	131	131	131	132	132	132.2	132	132	132	
	.20	20	"	129	129	128.2	128.2	128.2	129	129.5	129.7	129.5	129	129	
	.40	40	"	126.5	126.5	126.5	125	125	126	126	126.2	126.5	126.5	126	
	1.00	60	"	123	122	123	123	123	123	123.5	124	123	123	122	
	1.00	60	"	101.5	105.		101.5		103.5			101.5		73.7	Temp
	.20	80	"	122.5	119.7	121	121	121	121.5	121.7	122.5	121	122.5	122	
	.40	100	"	119.5	117	120	120	120	120	120.2	121.7	120	119.5	118.2	
	2.00	120	"	118	116.2	117.7	118.7	118.5	119	119.5	120.2	119	118.2	117	
	2.00	129	"	103.5	105		104.7		104.5			103		73.7	Temp
	.20	140	"	116.2	114.7	116.2	116.7	116.5	117	117.7	119	117	117	115	

DATE	TIME	MIN	AMP.	464	498	481	482	483	466	467		468	478	479	480	TEMP hole	
2/22/53	2:00	1:00	40	119.2	116	114	114	115	115.7	116		117.2	115.7	115	115		
	3:00	1:00	"	117.2	113.7	112	111.5	113	114	114.5		116	113.7	113	112		
	3:00	1:00	"	105.7	111.7		107			107				105.7		74	Temp
	.20	2:00	"	109	115.7	113	107.7	109.7	111	111.7		117.7	117.7	117.7	117.7		
	.30	2:10	"	106.7	112	113	106	108	109	110		112.7	109	110.7	113		
	.40	2:20	"	103	109	115	103	106	106.7	108		111.7	111.7	111.7	110		146.7
	.50	2:30	"	100	107.7	112	100	103.7	105.7	105.7		107.7	107.7	111	97		153.3
	.55	2:35	"											100			156.7
	.57	2:37	"			100											157.7
	1:00	2:40	"						100				100				158.7
	.05	2:45	"									100					159.3
	1:00	2:45	"	96.2	97	98	96	100	98.5	100		98	98	97	94		160.
	1:30	3:15	"	107.2	112.5		109.5			110.5		110.7 50		108		72	Temp
	.05	3:20	"														163.3
	.10	3:25	"	92	82.2	96.2	88	87	92	91.5 50			75.7	92	98.5		
	.15	3:30	"									✓	50				169.7
	.17	3:32	"					50									170.3
	.17	3:32	"			50				✓							171.7
	.19	3:34	"				50										172.
	.22	3:37	"	85	50				73					72	75.7		173.3
	.30	3:45	"		110.5	114	110.7	112	110.5 50				109.7			73	Temp
	.35	3:50	"										✓				176.
	.40	3:55	"	50		✓	✓	✓						52 50	75.5		180.
	.50	4:05	"						✓					112		73	180.3
	.50	4:05	"	112.7											51.7 50		Temp
	.50	4:05	"												✓		187.
	.55	4:10	"														

DATE	TIME	MIN	AMPS	464	465	481	482	483	466	467	468	478	479	480	REMA. Idle
5/22/21				*122	*11		(99)		(110)		*112		(112)		
	4:00	0	50	119.2	124.5		118			119			118	73	Temp
	5:00	60	"	114.2	117.5		112			113			112.2	73	"
	6:00	120	"	107.2	112.5		105.5			105.5			105.5	73	"
	7:00	180	"	107.2	108.5		102.2			107.2			102.2	72.2	"
	8:00	240	"	105	106.2		100.2			102			100	72.7	"
	9:00	300	"	100	102.5		98.7			100.2			98.5	74	"
	10:00	360	"	99	103		99			99.7			98.7	74.5	"
	11:00	420	"	100	103.5		99			101.5			99.2	75	"
	12:00	480	"	107.7	108.5	107	107.2	105.5	100.2	108.2	108.7	107.2	108	108.7	VOLT READING
5/24/21	Discharge			*128	*81		(*99)		(*110)		*112		(*112)		
	12:00	0	70	134.5	139.7	130.5	128.5	128	133.7	133.7	130.5	128.7	128.5	128.7	
	:04	4	"	133.7	132.5	132	132.5	132.5	133.7	133.7	133.7	133.5	132.5	132	
	:10	10	"	130.7	130.5	130.2	130.7	130.5	131.2	131.2	131	130.7	130.5	130.5	
	:20	20	"	128.2	128.1	128	128	127.8	128.2	128.5	128.4	128.2	128.1	128.1	
	:40	40	"	126.2	127.2	127.7	127.7	127.7	128.7	128.5	126	126.2	125.5	127.7	
	1:00	60	"	122.2	123.2	123.5	122.5	122.5	123.5	123.4	121.1	123	122.2	122.7	
	1:00	"	"	103	106.7		104			104.5			104	76	Temp.
	:20	80	"	120.2	118.5	121	121.2	121.2	121	121.7	122.2	121.2	120.5	119.9	
	:40	100	"	119.2	117	119.7	120	120	120	120.2	121.7	120	119.5	118.2	
	2:00	120	"	117.7	118.2	118	118.2	118.2	118.5	117.2	120.2	118.5	118.2	117	
	2:00	"	"	105	110		107.5			107.7			106.7	77	Temp.
	:20	140	"	116.2	115.5	116.2	116.5	117	116.5	116	119.2	117.7	116.7	115.5	
	:40	160	"	116.2	115.5	114.2	114.7	114.7	116	116.2	115.5	115.7	115.5	113	

DATE	TIME	MIN	AMPS	404	488	481	482	483	466	467	468	478	479	480	TEMP Bdb	
6/20/07	3:00	180.	70	1.122	1.08	1.172	1.117	1.13	1.142	1.145	1.162	1.14	1.135	1.100		
	3:30	"	"	1.09	1.137		1.11			1.12			1.09.7		78	Temp.
	12.0	200.	"	1.092	1.025	1.09	1.09	1.10	1.115	1.122	1.14	1.100	1.097	1.062		139.3
	12.9	207	"		1.00						1.125	1.09	1.072	1.039		
	13.0	210.	"	1.064	.977	1.072	1.059	1.08	1.077	1.085						
	1.0	220.	"	1.037	.962	1.025	1.022	1.062	1.072	1.082	1.107	1.07	1.072	1.00		150.3
	1.45½	220½	"								1.08	1.04	1.01	.992		
	1.50	230.	"	1.002	.925	1.020	1.005	1.037	1.04	1.007						154.
	1.57	231.	"	1.00												154.7
	2.02	232.	"				1.00						1.00			156.3
	2.07½	232½	"													158.
	2.16½	233½	"			1.00						1.00				159.7
	2.19½	233½	"								1.00					160.
	4:00	234½	"													160.3
	4:00½	240½	"						1.00	1.010						161.
	4:01½	241½	"					1.00								
	4:01	242	"	.944	.825	.937	.94	.962	.972	.925	.50	.91	.940	.94		163.3
	4:05	"	"	1.13	1.167		1.16			1.162	✓		1.172		79	Temp.
	5:10	250	"	.92	1.093	.925	.88	.922	.925	.672		.717	.925	.93		168.3
	5:12½	252½	"							.50						168.7
	5:17½	253	"		.50					✓		.50				169.7
	5:17½	253½	"					.50				✓				170.
	5:20	255	"			.50										170.3
	5:25½	255½	"				.50	✓								171.7
	5:27½	257½	"			✓	✓		.66				.80	.877		
	6:00	260	"	.785					.50							174.7
	6:02	262	"													177.
	6:25½	262½	"	.50					✓				.50			179.
	6:28½	268½	"											.777		
	6:30	270	"											✓		187.3
	7:41	281	"											.50		
														✓		

DATE	TIME	MIN	AMPS	404	488	481	482	483	466	467		468	478	479	480	TEMP Deb.	
5/24/09	Charge			#129	#82		#100		#111			#113		#113			
	4:55	0	30	1204	1262		1242			1242				123		80.2	Temp
	5:55	60	"	1172	123		1165			119				116		80	"
	6:55	120	"	111.5	116.		109.7			111.5				109.5		78.5	"
	7:55	180	"	107	112		105			106.5				105		78	"
	8:55	240	"	104.	109.		103.			104.5				103.5		77.7	"
	9:55	300	"	101.7	106.		100.7			102.				101.7		77.5	"
	10:55	360	"	101.	104.5		100.			102.				101.		77.2	"
	11:55	420	"	100	104.		100			102.5				101.7		77	"
	11:55	"	"	177	175	1732	1732	1742	1782	1762		1772	1757	1757	1760	VOLT READING	
							Discharge										
5/26/09	AM 12:00	0	40	1447	143	1422	1422	1405	142	1.42		1.42	1.40	1397	1.39		
	04	4	"	1337	1337	1.33	1.33	1.33	1337	1337		1.33	1.332	1332	1332		
	10	10	"	131	1307	1.307	1.305	1.302	1.31	1.31		1.31	1.31	1.31	1.31		
	20	20	"	1262	1262	126	126	126	129	129		129	129	129	1261		
	40	40	"	125	124	1245	125	1245	1255	1257		126	125	125	1245		
	1:00	60	"	1225	121.	1225	123	123	123	127		1225	124	123	122		
	1:00	60	"	103	106		1035			1045				103		76.7	Temp
	20	80	"	120	115	121	121	121	121	1215		1222	121	1205	1206		
	40	100	"	119.	116.5	119.5	119.5	120	120	120		120.7	120	1192	116.2		
	2:00	120	"	117.7	115	117.7	117.7	118.2	119.5	119		120	115.5	118	116.5		
	2:00	120	"	104	109		105			106.5				104.5		76.5	Temp
	20	140	"	116.2	117	116	116	117	117.5	118		117	117.5	117	115		
	40	160	"	114	109.7	113.5	113	114.5	115.7	116		117.5	115	114.5	112		

DATE	TIME	MIN	AMPS	484	498	481	482	493	466	467	468	478	479	480	TEMP Bdle	
5/26/09	2:00	180	40	117	133	115	112	112	113.5	112		117	112	117		
	2:03	149	"	107	111		107		108				120		75	7 min
		117	"		122.5											
	2:10	270	"	107	133	107	125	120.5	111	111.5		117	110	122	104	133.3
	2:13	211	"	102	98	102.5	106	107	109	111			112	112	102	
	2:16	223	"												100	145.3
	4:00	260	"	102	95	102	102.5	104	106	107			102	103	97	
	4:03	211	"				101									149.3
	4:06	223	"	103		103										152.
	4:09	237	"	98	97.7	98.5	97	101	102	102		102	102	100	95	153.3
	4:12	225	"					100	100				100			156.7
	4:15	237	"									99				159.3
	4:20	270	"	94	95	95.5	92	96	97.7	101		95	100	94.5	93	160.
	4:23	211	"	117	113		111.5			111		110.5		117	75	7 min
	4:26	211	"									50				162.7
	4:29	224	"	88.5	50	87	85	89	85	50			50	89	89	166.7
	4:32	260	"			50						✓				167.3
	4:35	223	"					50								168.3
	4:37	237	"				50									170.3
	4:40	237	"		115	115	113	114		113			117		75	7 min
	2:20	260	"	71		✓	✓	✓	55.5	✓		✓	70.2	112		
	2:21	251	"						50							174.3
	2:24	264	"		50											176.
	2:26	266	"										50			177.3
	2:28	264	"	112.5					100	✓			112.5			
	2:30	270	"										✓	65	75	7 min
	2:33	270	"						✓					50		184.3
	2:36	270	"											111	75	7 min
														✓		

Cells #466–468 were removed and connected up on testing-board for overcharge tests. See 5/26/09 in individual record-book.

DATE	TIME	MIN	AMPS	464	468	481	482	483	478	479	480	TEMP Sulle	
5/24/[illegible]	Discharge			120	[illegible]		(101)			117			
	4:[illegible]	[illegible]	20	119	122.5		117.5			117.5		75	Temp
	[illegible]	[illegible]	"	117.5	117.5		111			110		76	"
	[illegible]	[illegible]	"	115	114.5		106			107		76	"
	[illegible]	[illegible]	"	107	111		105			105		76.5	"
	[illegible]	240	"	103.7	107.7		102.2			100.7		76.7	"
	9:[illegible]	[illegible]	"	100.5	107.2		99.2			98		76	"
	[illegible]	360	"	98.7	102		97.5			96		75.2	"
	[illegible]	42	"	98	101.7		97			95.5		75.2	"
	[illegible]	[illegible]	"	176.5	176.2	173.7	173.2	174.2	176.2	176.2		177.2	VOLT READING
	Discharge												
5/26	12:00 P.M.	0	40	124.2	124.2	123.5	123.5	123.5	124	124.2		124.2	
	:04	4	"	123.7	123.5	123.5	123	123	123.7	123.7		123.5	
	:15	15	"	120	129.5	129.5	129.2	129	129.7	129.7		129.5	
	:20	20	"	128.2	128	128	128	127.7	128.2	128.2		128	
	:40	40	"	125	127.2	127.5	127.5	127.5	127.5	127.5		127.2	
	1:00	60	"	122.2	122.2	122.2	122.5	122.5	122.5	122.2		122.7	
	1:00	"	"	100.5	102.5		100.7			98.7		75.7	TEMP
	:20	80	"	120.5	117.2	121.2	121.2	120.7	120.5	120.5		119.7	
	:40	100	"	118.2	116.5	118.2	119.7	119.7	118.2	118.5		117.7	
	2:00	120	"	117.2	114.7	117.7	118.2	118	118	117.5		116.2	
	2:00	"	"	102.2	106		102.5			101		75.7	
	:20	140	"	116	112.7	116	116	116.2	116.5	116.2		114.6	
	:40	160	"	114	110	113.7	113.5	114	115.2	114.7		112.2	

DATE	TIME	MIN	AMPS	404	488	481	482	483	478	479		480	TEMP Jake
5/26/07	3:00	180	40	1.12	1.062	1.107	1.102	1.117	1.13	1.122		1.081	
	3:00	"	"	1.037	1.025		1.05			1.022			NO TEMP
	:20	200	"	1.087	1.01	1.077	1.067	1.082	1.10	1.085		1.04	
	:25½	205½	"		1.00							1.00	— 137.
	:32	212	"	1.05	1.972	1.05	1.027	1.057	1.077	1.052		1.012	
	:36	216	"									1.00	— 144.
	:41	221	"	1.07	1.05	1.022	1.015	1.04	1.06	1.022		1.01	
	:41½	221½	"				1.00						— 149.7
	:42	222	"	1.00									— 152.
	:44	224	"							1.00			— 152.7
	:50	230	"			1.00							— 153.3
	:54½	234½	"					1.00					— 157.
	:57½	237½	"						1.00				— 158.3
	4:00	240	"	1.05	1.065	1.032	1.03	1.06	1.072	1.05		1.022	
	4:00	"	"	1.07	1.115		1.095			1.067			70 TEMP
	:14	254	"		.50				.50				— 169.3
	:15½	255½	"			.50		.50					— 170.3
	:17½	257½	"				.50		✓				— 171.7
	:27½	267½	"	.50									— 179.3
	:27½	267½	"		✓	✓	✓	✓		.50			— 179.7
	:30	270	"							✓		.692	
	:38½	278½	"									.50	— 195.7
												✓	
5/26/07	Change			#31.84			102			(#145)			
	7:55	0	30	1.03	1.115		1.025			1.09		74.5	Temp
	5:55	60	"	1.09	1.127		1.08			1.067		74.2	"
	6:55	120	"	1.05	1.112		1.035			1.03		74.5	"
	7:55	180	"	1.012	1.077		1.007			1.00		74	"
	8:55	240	"	97.5	1.042		97.5			97.2		73.5	"
	9:55	300	"	98.	1.025		97.7			97.5		74	"
	10:55	360	"	98.5	1.027		98.			98		75.5	"
	11:55	420	"	99	1.027		98.5			99		76	"
	11:55	"	"	1.73	1.757	1.737	1.742	1.75	1.77	1.78		1.74	VOLT READING

DATE	TIME	MIN	AMPS	484	485	481	482	483	478	479		486	TEMP Rdg	
8/27/71	Discharge													
	12:00		9	144	143	142	142	147	142.7	142.5		142		
				133	133	132.2	132	132	132	132		132		
				130.7	130.7	130	130	130	129	129.2		129.2		
				126	127.2	127	127.7	127.7	127.2	126.2		127.2		
				124	125.7	127	127.7	127.7	127	127.2		124		
	1:00			122	123	123.2	123	123.2	123.7	122.2		122		
	1:30			122	122.2		122.2			122.2			76	Temp
				120	119	121	121	121	121	120.5		120		
				119	117	119.7	120	120	120	119		119.2		
	2:00			117	117.7	118.4	119.5	119.5	119	117		117		
	2:30			114	115.7		115.5			115.7			76	Temp
				116	115.5	116.7	116.7	116.2	117	116.5		116		
				114.5	111	114	114	114.5	115.7	115		113		
	3:00			111.5	113	111	111	111.7	112.5	112.5		109.7		
	3:30			109	109		109.5			109.5			76.5	Temp
				109.7	109.5	109.7	109					108		
				107.7	108	108.2	107.2	109	111	109.7		106		
					100									
				105.5	91.5	106	114.5	115.5	115	106.5		103		
				101.7	96	102.7	102.5	103.5	107	104		100		
				100										
							100							
									50					
				97.7	93	100	97.5	101	102.5	100		97		
								100						
				96.2	96.5	94.5	96.5	96	97.5	97		94.5		
				107	112.5		111			107				
				90	62.5	81	87	75	79.5	90.7		91		
					60			50						
									50					
						50								
							50	✓	✓					
				79		✓				83		76.5		
				80			✓							
										54.5		77		
										50				
										✓		50		
	139	279		112.5	114.5	116.2	117	115.7	114	112.5		109.7	76.5	
												✓		

- 147
- 132
- 129.2
- 127.2
- 124
- 122
- 76 Temp
- 120
- 119
- 117
- 76 Temp
- 115
- 113
- 109.7
- 76.5 Temp
- 108
- 106
- 103
- 100
- 137.7
- 146.7
- 150.7
- 152.7
- 153.3
- 155.3
- 158.7
- 97
- 94.5
- 76.5 Temp
- 91
- 169
- 169.3
- 170
- 172.3
- 76.5
- 177.7
- 77
- 180.3
- 50
- 186 after this discharge, for 12 mins.
- 109.7 76.5 Cell #398 connected in for
- ✓ 50 mins in middle of charge (see over)

Cells #551, 552, 568, + 569 were connected in Enclosure Section

DATE	TIME	MIN	AMPS	454	488	421	452	493	478	479	480	398	561	552	568	569	TEMP Idea	NOTES
3/27/09				#132	#85		(#102)			(#106)		#95	(#24)		(#24)			
	9:25		20	118	123		117			117		88			92.5		76.5	
	9:35	10	"	114	118		112			110		91			94.5		76	
	9:45	20	"	114	112		110			104		94			96		76.5	
	9:55	30	"	106	110		104			103		94			96.5		76.5	Current off 1 min. at 8:35 while connecting in cell #398
	10:05	40	"															
	9:22	20	"	101	107		100			99		87	94		97.2		76	
	10:22	30	"	100	104		99			98		89	95		98		76	
	10:32	40	"	100	103		99			98		91	96		99		76	
	10:42	50	"	102	102	102	102	102	102	102	102	102	102	102	102	102		
4/27/09	Discharge																	
	12:00	0	40	145	142	142	142	141	143	142	142	137	147	145	149	137		
	10	4	"	137	135	132	133	132	137	137	137	130	132	132	135	130		
	1:00	10	"	130	132	131	130	130	132	132	131	126	130	129	132	130		
	20	20	"	128	128	128	128	128	128	128	128	124	127	125	128	128		
	40	40	"	127	126	127	127	127	129	128	127	122	127	126	125	128		
	1:00	60	"	122	125	125	123	127	127	125	122	122	122	122	125	125		
	1:05	"	"	102	100		103			101		96	100		104		75.5	TEMP
	20	80	"	120	118	121	121	120	122	122	119	114	120	122	125	120		
	40	100	"	118	117	115	117	119	119	119	118	107	118	115	119	119		
	2:00	100½	"	117	116	117	118	117	118	118	117	100 62	117	117	117	117	79	
	2:00	4	"	107	108		109			108		101	102		106		75.2	TEMP
	.03½	2:03½	"														82.3	
	20	140	"	117	117	117	118	116	117	117	115	111	116	117	117	117		
	40	160	"	117	117	117	117	117	117	117	117	112	117	117	117	117		

DATE	TIME	MIN	AMPS	484	488	491	492	493	498	499	482	298	551	552	568	589	TEMP Pulse	
5/27/09	3:00	180	40	1107	1062	1108	1102	111	1134	1122	1092		1125	1117	1122	1126		
	3:00	180	"	104	118		07			106		119	107		109		75	TEMP
	:10	200	"															135.
	:27½	207½	"		100													145.7
	:38½	218½	"								1.00							
	:40	220	"	100	.945	1.012	1.002	1.022	1.055	102		.985	1.06	1.032	1.055	1.052		146.7
	:43	223	"				1.00											148.7
	:44½	225	"			100												150.
	:48½	228½	"							100								152.3
	:50	230	"	97	922	977	972	1.00	1.02	99		.965	1.038	100	1.021	1.02		153.3
	:54½	234½	"												100	1.00		156.3
	:57	237	"						100									158.
	:58½	238½	"										1.00					158.3
	4:00	240	"	.925	.857	.91	.925	.932	.967	.962		.942	.968	.928	.872	.917		
	4:00	240	"	107	1135		112			109		118	110		114		75.5	TEMP
	:08½	248½	"												50			163.7
	:08	248	"											50		50		165.3
	:10	250	"												✓			166.7
	:11	251	"			50								✓		✓		167.3
	:12	252	"					50										168.
	:12½	252½	"			50							50					168.3
	:13	253½	"					✓	50									169.
	:15	255	"			✓	50						✓					170.
	:22	262	"	50					✓									174.7
	:25	265	"				✓			50		.782						177.3
	:26	266	"							✓								194.3
	:36½	276½	"									50 ✓						
	change			133	86	(100)				117.			176	(79)		(291)		
5/27/09	4:55	0	30	1137	120		111			115			1142	1155	1187		75.5	Temp
	5:55	60		115	126		113			112			110	110	114		76.	"
	6:55	120		110.5	115.		107.5			108.			106.7	107.	110.		76.5	"
	7:55	180		107.2	112		106			105.5			104.7	105.	107.		77	"
	8:55	240		104.	109		103.7			102.			102	103	105.5		77.2	"
	9:55	300		103.5	107.2		102.5			101.7			101.5	102.5	105.		77.5	"
	10:55	360		103	106.7		102			101.5			1.00	102	105.2		77.7	

DATE	TIME	MIN	AMB	404	483	481	482	483	478	477	480	398	541	542	568	567	TEMP IDLE	
5/27/19	[illegible]	[illegible]	[illegible]	102.5	102.5		112			101		100.5	102		103.5		7.K Temp	
	[illegible]	[illegible]		117	117.5	123	124.5	124.5	127	127	127	127.5	127.5	127.5	127.5	125	P.D.	
			Dropping															
5/28	12:00	0	45	134.5	133	133	131	131	131.5	131.5	140	141	139	138.5	138.5	138		
	[illegible]	[illegible]		138	137.5	137	133	133	134	134	137	134.5	133.5	133	133	133		
	[illegible]	[illegible]		137.5	137.5	137	132	132	132	132.5	132	132	132.5	132	132	131		
	[illegible]	[illegible]		128.5	128.5	128	127.5	127.5	129	129	129	129	127.5	127.5	127	127		
	[illegible]	[illegible]		126.5	126.5	126.5	126.5	126.5	125.5	125.5	125	125.5	124.5	124	124.5	124.5		
	1:00	60		122.5	121.5	122.5	123.5	123.5	122.5	122.5	122	122.5	122.5	122	122	122		
	[illegible]	[illegible]		104.5	105.5		105			103		102.5	104.5		104		77.5 Temp	
	120	90		122	119.5	121	121.5	121	121	122.5	120	121	120.5	120.5	120.5	121		
	140	110		119	117.5	119.5	120	120	120	120.5	115	119.5	119	118.5	119	119		
	2:00	120		117	117	117	117	117.5	117.5	117.5	117	117	117.5	117	117.5	117		
	2:30	150		115	115.5		117			115.5		114	117		115.5		77.5 Temp	
	120	140		116	113.5	116	116	116.5	117.5	117	115.5	117	116	116.5	116	116		
	130	150		114	111	113.5	113.5	114	115.5	115	113	115.5	114	113.5	114	114.5		
	3:00	180		112	109.5	111	111	112	114	113	113.5	114	112.5	111	112.5	112		
	2:00	120		107	112		109			106		111.5	108.5		113		77.5 Temp	
	110	130			105													
	120	200		108	105.5	107.5	107	106.5	111	109.5	106	107	107.5	108	107.5	110		
	130	210		105	103	105.5	104.5	105.5	109	107	103	105.5	105.5	106	105	108		— 140.
	140	220		102.5	97	103	102	104	107	104.5	101	103	103.5	103	102.5	106		
	[illegible]	[illegible]														106		— 149.7
	145	230		100			100							100				— 152.
	150	235		99.5	94	100	99	100.5	104.5	101	98	100.5	101.5	99.5	100	102.5		— 153.3
	152.5	237.5											100					— 155.7
	155	235						100		101						100		— 156.7
	157	237										100						— 158.7
	4:00	240		95.5	89	97.5	95	96.5	100	97.5	95.5	97.5	95	97.5	95	97		— 160

DATE	TIME	MIN	AMPS	404	488	481	482	483	478	479	480	398	551	552	568	569	TEMP Solar	
5/26/09	4:17		40	109	107		112			1205		115	112	50	117		77	Temp
																		- 162/3
																50	50	- 163.3
														50				- 164.3
															115	117	77	Temp
																		- 168.
				67	77	61.5	71.5	72	91		91	50	✓	115	✓	✓		
					50		50	50										- 168.7
												✓		✓				- 169.3
						50												- 170.
								50										
				115	114	116	114	114	109			111					77	Temp
																		- 171.
				78		✓	✓	✓	✓	78								
				50							50							- 176.7
											71							- 180
											50							- 186.7
				112						112		111					77	Temp
										✓		✓						
5/26				134	77		(105)			(117)		117	(30)		(30)			
	4:55	1	30	120	117		119.5			117.5		117.5	117.5		120		77	Temp
	5:55	61		117	119.5		112			111		111.2	117.7		114		75.2	
	6:55	120		117	112		105			104		102	102		107		75.2	
	8:05	190		104	109		102			100		99	99.5		104		75.	
	8:55	240		101	106		100			95		97.7	98		102		74.7	
	9:55	300		99.7	104		98.7			96.5		96.5	97		101.2		74.5	
	10:55	360		99	103		98			95.7		96.5	97.2		101.2		75	
	11:55	420		100.5	102		99.2			97.8		98	99		102.7		76	
	12:55	420		178.2	176	173.2	174.2	172	177	178	178.7	176.7	177.2	175.2	175.7	176		B.D. Thermo
6/28/09	AM			D change														
	12:00	0	%	143.2	142	141.2	140.7	140.5	142	141.7		140.5	140.5	140	139.7	139.7	139.5	
		0	%	133.7	133.5	133.5	133	132.5	133.7	133.7		133.7	134.2	132	132.7	132.7		

DATE	TIME	MIN	AMPS	444	448	451	452	453	478	479		480	545	551	552	568	569	TEMP Side	
6/28/09	AM 10	10	40	1315	1315	131	131	1307	1312	1317		1311	1322	1306	130	1305	1305		
	20	20	"	1215	1212	1212	1212	128	128	1285		1227	1292	1297	1275	1287	1287		
	40	40	"	125	1242	1247	1247	125	1250	1252		1247	1247	1245	1242	1240	1240		
	100	60	"	122	121	1215	1215	1222	1225	1222		1215	1225	122	1217	1222	1222		
	100	"	"	103	102		1035			1035			101	104		1062		77	Temp.
	20	80	"	1207	1198	1217	121	121	1212	1205		1198	1205	1202	120	1201	1202		
	40	100	"	1185	117	1192	1192	119	1192	119		118	119	1187	118	1185	1187		
	200	120	"	117	1152	1172	1172	118	1182	1185		1162	118	117	1165	117	117		
	200	"	"	106	1085		107			1045			1047	105		109		77.5	Temp
	20	140	"	116	1132	1157	116	1162	117	1165		115	117	1152	115	1152	1152		
	40	160	"	114	110	1132	113	114	1152	1145		1122	1152	1137	113	1135	114		
	300	180	"	111	107	1107	1105	1112	1132	1125		1117	1142	1122	1107	1112	1117		
	300	"	"	975	112		1145			1155			1155	107		110		77	Temp.
	20	200	"	1072	102	107	107	108	1107	109		1055	112	109	1075	109	109		
	37	217	"	1045	100 .986	1052	1042	1057	1085	1021		1025	110	1072	1072	1067	1067		138
	40	220	"	1017	.957	1022	1015	1032	1063	1021		1015	1017	1015	102	1042	1017		146.7
	44	224	"	100			100												150
	47	227	"												100	100			150.3
	50	230	"	982	99	100 982	100	1.000 100	1.032	100		972	1082	1092	942	97	1005		151.3
	50	230	✓											100			100		153.3
	103	283	"	935	857	91	927	925	100	992		907	942	1025	50	56	100		162.
	105	285	"										100	50					163.3
	111	291	"		50														162.
	115	295	"					50						✓		✓	✓		164.7
	135	315	"			50													164.
	145	325	"					✓	50										164.7
	1	251				✓	50		✓			957	79						170.7
	20	260	"	1067			✓			1085									175.3
	23	263	"	50									50						176.3
	25	265	"							50									178.
	27	267	"									50							184.
	39	279	"	114	1305		1187			114			127	1185		121		76.2	TEMP

DATE	TIME	MIN	AMPS	404	498	481	492	483	478	479	480	398	551	552	568	569	TEMP
																	Idle
6/28/09	Charge AM			135	88		(106)			(119)		198	(31)		(31)		
	4:15	0	30	118	131		120			117.7		1172	1142		117	77	
	5:15	60		107	121.5		115			113.5		1125	1105		113	77	TEMP
	6:15	120		106	115		111.7			110		109	108		109.7	77.5	"
	7:15	180		105	112		108			107.5		107	105.5		107.5	78	"
	8:15	240		105.2	110		107.2			105		105.2	103.2		105	78.2	"
	9:15	300		105.5	109.5		105			103.5		103.5	103		104.2	78.5	"
	10:15	360		105.5	108.2		103.7			102.5		103.5	103.5		103.5	79.5	"
	11:15	420		104.5	107.5		104.2			102		107	104.5		107	79.5	"
	11:45	450		107	107.5	177.2	173	173.5	176	173.5	177.7	176.5	176.2	177	177.7	177.5	P.D. READING
6/28/09	Discharge AM																
	12:00	0	40	145	144		142	141.5	144.5	143	144	143	139.5	139	139	139.2	
	.04	4	"	133.7	133.7		133.5	133	133	133.7	133.7	133.7	132.5	132.5	132.5	132.5	
	.10	10	"	131.7	131.5		131	131	131	131.7	131.7	132.5	130.2	130	131	130.5	
	.20	20	"	129	128.2		128.2	128.2	128	129	129	129.7	127.7	127.5	128	128	
	.40	40	"	126.5	125		125	125.5	125	125.5	125.7	125.5	125	124.5	124.5	125	
	1.00	60	"	122	120		122.2	123	123	123	122.5	122.2	122	122.5	122.5	122.2	
	1:00	60	"	106.7	110		107			105.5		105.5	106.7		109.5		Temp
	.20	80	"	120.2	119.7		121	121.5	121.5	122.5	121	120	120.5	120	120.5	121	
	.40	100	"	119	118		120	120	120	119.7	118	120	119	119	119	119.5	
	2.00	120	"	117.7	117		117.2	117.2	119	117.2	117	117.5	117.5	117	117.5	117.7	
	2.00	120	"	105.5	111.5		107.5			106		105	107.7		105.2	106	
	.20	140	"	116	115.5		115.5	115.7	116	116.2	115	117	115.5	114.5	115.5	116	
	.40	160	"	114	111		113	113.5	114.7	115.7	115	113	114	113	114	113.2	

DATE	TIME	MIN	AMPS	464	498	481	482	483	478	479	480	398	551	552	568	569	TEMP.	
	AM																Idle	
5/28/19	2:00	180	40	111	106.5	112.2	110.5	111	113	112	109	109	111.5	113	111.5	111.5		
	3:00	280	"	138	117.5		110			106		107	109		112.5		77	
	.20	240	"	107.7	112	110.7	112.2	112	110.5	109	105	112	113.5	113	113	112.7		
	.30	210	"	105	111	111.5	110.5	110.5	109	107	103	110.2	113	113.5	113	112.5		— 140
	.40	320	"	102	97	112	112	114	109	106.5								
	.42	240	"								100							— 148
	.47	227	"	100		100	100							100	101			— 151.3
	.50	220	"	99.5	95	98	99	101	104.2	101	95	102	100	99.2	98	100		— 153.3
	.52	230	"					100		100								— 155.3
	.57	230	"												50			— 156.3
	.59	230	"											50				— 159.
	4:00	240	"	95.7	99	96.2	94.5	97.5	100	97.5	95	103	50.5			102		— 160.
	.10	240	"										50			50		— 161.
	.15	240	"	109	114.2		112.7			108.5		108	112.7	112.5	112.7	114.7	72.5	Pump
	.22	240	"									100						— 168.
	.30	240	"	90	95.7	92	91	93	82.5	92	90	95	✓	✓	✓	✓		— 168.
	.42	240	"		50	50												— 169.7
	.43	240	"					50		50								— 170.3
	.50	240	"			✓	50											
	.52	240	"	92				✓	✓	85	92.2	91						
	.54	240	"	50			✓			85.5	72.2	62						— 177.3
	.58	230	"							50		50						
	.59	230	"															— 180.3
	.31	230	"															— 180.7.
	.31	230	"	112	119	114.5	112.7	112	112.7	112	50	111.7				72.2	Pump	
	.40	210	"															— 186.7
	.43	210	"							✓	112.2	✓				72.2	Pump	
5/29	6:00	0	"	120	89	(107)			(120)			99	(32)		(32)			
	AM																	
	4:55	0	30	112.2	114.5	112.2			117			115.5	116.5		117		76	Pump
	5:45	60	"	110.5	120	112.7			116.5			111.5	110.2		112.5		75.7	"
	6:55	120	"	116	116	108.2			107			106	106.5		106.5		76	"
	7:55	180	"	107	111	107			103			108.2	109.7		106.6		75.2	"
	8:55	240	"	102.7	102	102			99.7			100	100.2		102.7		74	"
	9:55	300	"	102	102	99.7			98.2			98.2	99.7		102		74.7	"

DATE	TIME	MIN	AMPS	404	485	481	482	483	478	479	480	398	551	552	548	549	TEMP Pelle	
5/13/49	10.55	300	50	100.4	104		98.5			97.4		98	100.4		104.5		74.7	
	11.01	426	"	100.5	104		99.5			99		98.7	100.2		102		74.5	
	12.01	426	"	178.2	177	173.2	173.7	174.2	176.7	178	178	178.2	177	176	176	176.7		P.R. $-7\frac{1}{10}$ lbs.
	Stood	nicely	(1.00)	Flowers	other													
	Sunday		Monday									D. Michaud.						
6/1	12.00	0	40	124.5	124.5		124.5			125		124.7	125		125		74.5	Temp
	12.10	"	40	127	127.5	127.7	127.5	127.7	126.5	127.5	126	127	127	127.5	127	127.5		
	.30	"	"	122	121	121.7	122	122	122.5	122.5	120	120	120.2	121	120.5	120.5		
	.40	"	"	121	120	120.2	121	121	122	121.5	121.7	122.5	119.5	119.5	119.7	119.7		
	.50	20	"	119.7	119	119.5	120	120	121	120	120	121	119.2	119	119.2	119.5		
	1.00	30	"	118	118	118	119	119	119.5	118.5	119.5	119	117	117.7	117	117.5		
	1.05	40	"	117.2	119.5	119.5	119.5	119.7	118	119	117.2	117.5	117.7	117.5	117.5	117		
	1.10	50	"	91.7	92.7		92.5			93		92.5	93.7		93		74	Temp.
	1.20	60	"	115	117.2	115	117.7	116	116.5	116	115	116.2	117.2	117	117	117.5		
	1.40	80	"	114	115.5	117	117.2	115	116	115	114	117.7	117.5	117.5	117.2	117		
	2.00	120	"	112.5	117.5	117	117	117	117.2	117.7	117	117	117	117	117.5	117		
	2.10	130	"	97.2	97.5		99			97.7		97.5	99		99.5		74.5	Temp
	.20	140	"	110.5	110.5	109	110.5	110.5	113	112	109.5	113	110.7	109.7	110	110.7		
	.30	150	"		110.5													
	.40	160	"	102	100	106	106	109.7	110.2	109	105	111	105.2	109.7	109.7	109.2		— 104.7
	3.00	180	"	103.5	95	102	102	104.7	107.7	105.5	101	105.2	106	104	104.5	105		
	3.10	190	"	103	106		105			104		103	106		105.2		74.7	Temp
	.20	200	"								100							— 120
	.30	210	"	100	97.2	100	102	101.7	105.5	102.5	99	100.2	102	102	101.5	102		— 126.7
	.37½	217½	"					100						100	100			— 131.7
	.40	220	"	97.5	99	95.5	96			100	95.7	99.5	99	95	99.5	100		— 133.3
	.50	230	"	96.2	95	97	96.2	97.5	95	97.2	97.2	97.2	99	92.2	95.5	99		
	.55½	235½	"												95			— 142.3

DATE	TIME																											
				480	478	481	484	482	478	479		480	391	551	55	551	556	104										
6/1/7	2	2.00	2.17	60																								
		.37	2.17	"																								
		47	2.17	"	70.5	67	81	86.5	87	96	92.5		100	50	50		50											— 143.
		48	2.17	"			50							✓	✓		✓											— 144.7
		50	2.17	"																								— 146.7
		52	2.17	"						50																		— 151.
		55	2.17	"		60																						— 152.
		56	2.17	"																								— 152.7
		58	2.17	"	74.5		✓	89	✓	155	88		95															— 153.
		59	2.17	"					✓	50																		
		3.00	2.17	"						✓																		— 156.7
	4	.01	2.17	"	80						78.5		87															
	4	05	2.17	"	108.5	119.5	114	114.5	114	110	113		119	116	116.2	117	118	117	Temp									
		10	2.17	"	50						50																	— 161.
		15	2.17	"									50															— 165.3
		17	2.17	"							✓																	— 166.3
		20	2.17	"							112		112															— 172.3
		25	2.17	"									✓	✓														Temp
		30	2.17	"																								

Cells 477 – 480 removed from [illegible]

Cells 468 – 468 Put in Edmund's Section again, for 50 mins.

* Indicate that a new cell of 4 (Brand 17)

												4.26	457															
6/1		Lehigh			127	130		(126)			(125.4)		117	200	(53)		(53)											
		AM																										
	4	55	3	20	116	117		115.2			88.5			112.2	110.5		113		79.5	Temp								
	5	55	60	"	110.5	116		119			84.7			106	106		107.5		77	"								
	6	55	120	"	107.7	117.7		110.5			82.2			103.7	103.5		105		77	"								
	7	55	180	"	105	119.5		107			82			100.5	101		102.7		77.2	"								
	8	55	240	"	109.2	107		109.2			90.7			99	99.7		102.5		78.5	"								
	9	55	300	"	162	105.5		102			92.7			98.6	99.5		102		78	"								
	10	55	360	"	101.5	104.7		101			95			99	100		102.2		80.5	"								
	11	55	420	"	102.5	105.2		102			97.5			100.2	104.5		102.5		81	"								
	12	55	480	"	112.2	114.2	112	112.2	113	112	112		117	117	117.7	116	117.7	117										

DATE	TIME	MIN	AMPS	404	488	481	482	483	466	467	468	398	551	552	548	549	TEMP Delta
				Discharge													
6/1/09	PM 12:00	0	40	144	143	142.2	142.2	140	142	142	141.5	141	138.1	137.7	137.5	137.5	
	:04	4	"	133	133	133	132.7	132.1	133.7	133.7	133.5	133.5	132.2	131.7	133	133.2	
	:10	10	"	131.2	131.2	131	130.7	130.5	131.2	131.2	131	131.2	130	130	130.7	130.7	
	:20	20	"	128.2	128.2	128	128.2	128	129	128.7	128.5	128.2	127.5	127	128	127.7	
	:40	40	"	126	126.2	126.5	126	126.2	126.2	126.2	126.5	126.5	126.2	126.2	126.5	126.2	
	1:00	60	"	122	121.5	122.2	122.5	122.2	122.7	122.7	122.2	122.7	121.5	121.5	121.7	122.7	
	1:00	"	"	106.7	106.5		107.5			107.5		106	108.7		110		83. Temp
	:20	80	"	120	118.2	120.2	121.2	120.5	120.7	121.7	122	120.7	120.5	119.7	120	120.2	
	:40	100	"	118.5	117.7	119.2	119.5	118.7	120	120.2	119.7	119	119.2	119	119.2	119.5	
	2:00	120	"	117.7	117.7	117.5	118	118	119.2	119.7	120	118	117.5	118.2	117.7	118	
	2:00	"	"	108.5	110		111.5			112.7		108.5	111		112		89.2
	:20	140	"	116	115.8	116.2	116	116.2	118.2	118.5	117.2	116.7	115.5	115.7	116.2	116.2	
	:40	160	"	113.8	113.2	113.5	113.2	113.7	116.7	117	117.7	117.2	113.7	113.7	113.7	113.7	
	3:00	180	"	111.2	109.8	110	110.2	111.2	115.5	115.7	116.5	113.5	111.7	110.5	111.2	111.5	
	3:00	"	"	112.7	112.2		112.5			111.5		112.7	111		112.5		84.5 Temp
	:20	200	"	106.7	103.5	106.2	106.2	107.5	113.2	113.7	114.5	110.7	109	107.5	108.2	108.7	
	32½	210½	"		100								108				146
	1/2	220	"	101.2	96.5	101.5	101.5	102.5	110.5	110.7	112	107	103.5	99	100	102	145.5
	1/2½	220½	"	100													149.7
	45	229	"			100	100						100				149.3
	45	229	"														150
	49	229	"					100									152.7
	49½	229½	"														153
	50	230	"	97.8	93	96.7	98.2	99.7	108.7	108.2	111	105.5	103.5	100.5	100.5	99.7	
	51	231	"														154.
	55	235	"														156.7
	1:00.0	240	"	93.5	77.2	83.2	90.5	87.5	105.5	105.5	104.5	102.7					
	1:00.0	"	"	117	122		121.7			114.5		122	122.5		121.7		Temp
	:02	242	"										100				162.5
	:04	244	"		100			100									163
	0	248	"								100		100				165.3

DATE	TIME	MIN	AMP	484	488	481	482	483	466	467	468	398	484	482	468	469	TEMP
	AM.																IDLE
	11:09	249								1.00							— 166.
6/1/09	11	241	40						100								— 167.3
	11:47	254	"														— 169.7
											50						
	12	255	"	69													
	18	263	"	80								.902					— 172.
	24	266	"				50		97	.942							
	26	266	"								40						— 174.3
	30	270	"						95								— 177.7
											50						— 180.
6/1/09	Change			138	91	109			164		119	121	134	134			
	AM.																
	1:00	6	30	137	132	132			117			120	121	122	103.7		Tank
	5:00	60	"	120	124	122			112			114	114.7	117	82		"
	6:00	120	"	122	117	112			107			107.7	108.7	112	102		"
	7:00	180	"	108	112	107			103			103.7	104.7	108	79		"
	8:00	240	"	102	107	104			100			101.7	102	106	78.2		"
	9:00	300	"	100	102	102			100			99.7	101	104.2	78		"
	10:00	360	"	104	107	102			98.7			99	100	104	76.5		"
	11:00	420	"	100.7	104.7	99.5			99.5			99.5	100.2	103	76		"
	11:30	420	"	179	176.5	177.7	176.5	175	177.7	177		175.5	176	177.7	177	177	P.D. READING
	Dive Change																
	AM.																
	12:00	0	40	145	143	142	141	141	142.5	142		142	143	139.5	139	139	139.2
	10:4	4	"	132	133	132.5	132.5	132.5	132.5	133		132	134.5	132	132	132.2	132
	10:10	10	"	132.5	131	131	131	131	132	132.5		131	132.5	132.2	130	130.2	131
	10:20	20	"	129	128.5	128.5	128.5	128.5	129.5	129		129	130	128	127.5	128	128.2
	10:40	40	"	125	124.5	125	125	125	125.5	125		125.5	126	125.5	124.2	124.5	125
6/1/09	10:50	60	"	120	121.5	122.5	123	123	123.5	122.5		124	123.5	122.5	122.2	122.2	123

DATE	TIME	MIN	AMB	484	488	482	482	483	466	467	468	398	464	462	465	469	TEMP IDLE	
6/3/09	A.M. 1:00	60	40	104	117.2		104			113		122.5	105		107			77 Temp
	2			122.5	117	122.5	117.5	122.5	122	122	122	122.5	122.5	122.5	122.5	122		
	3			119	117.5	119.5	120	120	120	120.5	120.5	120	119	119.5	119	119.5		
	2:00	120		117.5	117.5	117.5	116	116	119	117	116	116	117	116.5	117	117.5		
	2:30	120		120.5	118.5		118			120		106	108		118.5		78 Temp	
	120	120		116	118	117.5	116	116.5	116.5	116.5	119	117.5	116	115.5	116	116.5		
	3:00	120		119.5	118	118.5	118	118	117	117.5	116.5	116.5	116.5	116.5	114	114	115	
	3:30	120		112	116.5	116.5	111	112	115.5	116	116.5	116.5	122	111.5	112	112.5		
		120		109.5	112		112			108		109	111		118.5		79 Temp	
	120	220		122.5	119	122	122	109	122	118	116.5	117	108.5	109	117	120		
	30	220		120	120	120	108	109	112	112.5	112.5	116.5	108	108.5	109	118.5		
	120	220			119													— 143.
	40	220		123	91	102.5	102.5	104.5	108.5	111	112	112.5	108	102.5	122.5	106		
	40	220													100			— 150
	45	220				105								100				— 150.7
	50	220					101											— 151.3
	50	220		100														— 152.3
	55	220		120	95	99	99.5	101.5	108.5	109	110.5	108	100	93	77	102.5		— 152.7
	60	220														100		— 153.3
	60	220						100							50			— 154
	65	220														50		— 156.
	70	220		95.5	85.5	92	95	102	108	106	107.5	112.5	50					— 158.3
	4:00	220													50			— 160
	4:00	220		113	117		115			110	100	115	112.5	117	122.5	115		— 165.3
	10	220		91	65.5	66.5	84	80	102	101.7	99	99						
	15	220			50	50							✓	✓	✓	✓		— 167.7
	15	220								100								— 168.
	15	220				✓		50										— 169.
	15	220							100									— 170.
	15	220					50	✓										— 170.3
	15	220									50							— 171.3
	15	220		58			✓			98		73						— 176.3
	20	220		50														— 177.7
	20	220								50	✓							
	20	220										73						— 183.3
	30	220							76	✓		50						— 184.3
	30	220							50	✓	114	105					74 Temp	
	35	220		112	124	122	122	122	112	112								

DATE	TIME																								
6/7/09	Discharge				139	92	(170)				(117 +														
	4:55		20		121.7	121.7	122				117														
	5:55	60	"		116	122	117				117														
	6:55	120	"		110.7	116.5	109				106														
	7:55	180	"		106.5	111.7	105				111.7														
	8:55	240	"		102.5	107.5	101				95.5														
	9:55	300	"		98.5	103.7	98.5				96														
	10:55	360	"		94	99.5	94				94														
	11:55	420	"		91.7	91	95				93														
	11:55	420			179	177.2	172.5	125	125.7	181	178.2														
							Discharge																		
6/2/09	PM 12:00	0	40		1452	144	143	1422	1422	1432	1434														
	:04	4	"		1335	133	133	133	1322	1337	1335														
	:10	10	"		131	1307	1305	1305	1302	131	1306														
	:20	20	"		1287	1282	128	1282	1282	129	1285														
	:40	40	"		1252	1247	125	125	125	1252	1250														
	1:00	60	"		1227	1212	1225	1227	1222	123	1227														
	1:00	60	"		99.2	101		99			97.5														
	:20	80	"		120	119	120.7	121	121	121.2	121														
	:40	100	"		118.7	117	117.2	118.5	118.5	117.7	120														
	2:00	120	"		117	116.2	117.2	117.7	117	118.7	118.7														
	2:00	11	"		101.2	106.5		103.2			100														
	:20	140	"		115.7	113.2	115.5	115.7	116.7	117	117.7														
	:40	160	"		115.7	110.5	112.5	113	113.7	116.2	116.5														

DATE	TIME																								
	119																								
		11.7.7	19.5		117.2		117	Temp																	
		111	117		115		79.5																		
		105	107.7		111.5		77.5																		
		102.5	103		107		77.7																		
		96.5	99.7		102.5		72																		
		96	95.5		101		75.5																		
		91.5	92.2		91		74																		
		94	94		98		68.5																		
	177	180	178.5	178.2	177	177.2		VOLT READING																	
	143	143	140	139.7	139	139																			
	133	135	132.2	132.2	132.7	132																			
	130.7	132	130	129.7	130.5	130.5																			
	128.5	129.7	127.7	127	128.5	128																			
	126.5	126	125.5	125.2	125	125.5																			
	123.2	123.7	122	121.7	122	122.5																			
		98	98		97		96.5	Temp.																	
	122	120.7	120.2	120	120.2	120.5																			
	121	119.2	118.5	118.2	118.7	119.5																			
	117.7	118	117	116.5	117	117.5																			
		101.2	103.2		106.7		74.7	Temp																	
	118.7	116.7	115.5	115.7	115.5	115.7																			
	117.7	115.5	115.7	115.7	115.5	114																			

DATE	TIME	MIN	AMTS	464	488	491	492	493	466	467	468	398	551	552	564	567	TEMP Adds	
6/2/09	PM 3:00	180	40	1112	1024	110	110	111	1147	1147	1147	1137	1117	1107	1115	1119		
	3:00	180	"	1032	1084		106			102		104	1042		1082		747	Temp
	10	170	"		1047													
	12:0	200	"	107	1002	106	1007	1027	1127	1122	1135	1107	1087	1045	108	1087		— 137.7
	12:0½	200½	"		1.00													
	13:0	210	"	104	.9845	1032	103	1077	1102	1100	112	1087	107	1052	1057	1067		
	1:0	220	"	1007	957	1001	1001	1022	1084	1087	1045	1065	1042	1012	101	104		
	1:1½	221½	"			1.00	1.00						1.00	1.00				— 147.7
	1:2½	222½	"	1.00				1.00										— 148.3
	1:4	224	"										1.00					— 151.3
	1:48	228	"													1.00		— 152.
	1:48½	228½	"															— 152.3
	1:50	230	"	772	927	957	767	9845	1.06	1.065	1.085	1.04	.942	.847	.537	.937		
	1:52½	232½	"												.50			— 155.
	1:56½	236½	"										.50					— 157.7
	1:58	238	"													.50		— 159.7
	1:58½	238½	"															— 159.
	4:00	240	"	730	862	887	92	922	1027	1032	1045	1005		✓		✓		
	4:00	240	"	108	1124		111			1067		1.00	1.00	1.00	118		752	Temp
	0:2½	242½	"															— 161.7
	0:4	244	"								100		✓		✓			— 163.3
	0:6	246	"															— 164.
	0:7	247	"						100									— 164.7
	0:8½	248½	"															— 166.3
	1:0	250	"	.874	.50	.50	.63	.567	.98	.952	.667	.962						— 166.7
	1:2	252	"					.50			.50							— 168.
	1:4	254	"			✓	.50											— 169.3
	1:0	260	"	.647			✓	✓	.90	.642	✓	.887						
	2:1½	261½	"						.50									— 174.3
	1:2	262	"	.50														— 174.7
	3:0	270	"					.667	✓			.672						
	3:0	270	"					.608				.110					752	Temp
	3:3	273	"															182
	3:3½	273½	"									.50						— 182.3
									✓									

DATE	TIME	MIN	RMB	404	489	481	482	483	466	467	468	378	467	256	256	469	TEMP IDLE
6/2/09		Charge		140	92	(111)			(118)		120	202	(3.6)		(3.6)		
	PM 7:00	30		1142	1184		1122			1085		1087	1109		1117		76.7
	8:00	60	"	1145	1197		1113			1109		1110	1110		1113		77.2
	9:00	120	"	1140	1162		1107			1067		1082	1072		1097		78
	10:00	180	"	1072	1113		1107			1045		1042	1052		1108		78.5
	11:00	240	"	1085	1095		1107			1025		1102	1103		1057		78.7
	12:00	300	"	1037	1082		1032			1012		1017	1102		1045		79
	1:00	360	"	1025	1075		1102			1112		1007	1082		1052		78.7
	11:00	420	"	1037	1062		1103			1102		1102	1037		1077		79
	1:00	420	"	1172	1147	1172	1127	1127	1129	1162		1155	1128	1162	1126	1155	END READING
6/3/09		Discharge															
	A.M. 12:00	0	40	1132	1170	1132	1139	1139	1135	1139		1137	1185	1136	1150	1152	1152
	:05	5	"	1134	1137	1132	1133	1132	1132.5	1134		1132	1136	1133	1132	1132	
	:10	10	"	1131	1131	1130.5	1130	1130.5	1131	1131.5		1131	1132.5	1132	1130.5	1130.5	
	:20	20	"	1128.5	1128	1127	1128	1127	1129	1128.5		1128.5	1133	1127.5	1127.5	1127	
	:40	40	"	1125.5	1127.5	1125	1125	1125	1126	1125		1126	1126	1127.5	1127.5	1125	1125
	1:00	60	"	1123.5	1127	1123.5	1123	1123	1123.5	1123.5		1124	1123.5	1122.5	1122.5	1123.5	
	1:00	60	"	1106.5	1119		1105.5			1107			1138.5	1106		1109	72.2 Temp
	:20	80	"	1107.5	1117.5	1121	1121.5	1121	1121.5	1121.5		1122.5	1121	1120.5	1120	1120.5	121
	:40	100	"	1119	1117.5	1119	1120	1120	1120	1120		1121	1117	1119	1117.5	1117.5	119
	2:00	120	"	1117.5	1116	1117	1117	1117.5	119	119		1120	1117.5	1117.5	1117	1117.5	117
	2:00	120	"	1107.5	1111		1107.5			1106			1105	1107		1111	Temp
	:20	140	"	1116	1117.5	1117	1116	1116.5	117	117		1119	1117.5	1117	1117.5	1117	116
	:40	160	"	1114.5	1112	1112.5	1114	1114.5	1115.5	1117		1117.5	116	1114	1113.5	1114	1117.5

Date	Time			424	428	429	432	433	446	447	448	398	551	552	561	569	106	
6/3/07	3:00	PM	40	112	109	110.5	111	112	115	115	116	114	112	111	117	112.5		
	3:00		"	108	112		111			106.5		108.5	109.7		112.2		77.7	Temp
	3:10	3:20	"	108.2	109.2	109	107	108.2	112.5	113	114	111.7	109.5	108.2	109	110		
	3:20	3:30	"	106	109.7	109	108	108.5	111	111.5	112.5	113	108	108.2	109	110.5		— 143.3
	3:30	3:40	"		108						111	109.7	108	108	110.5	112.5		
	3:40	3:50	"	112	111	112	112	109	109	108.5				110				— 149.
	3:50	4:00	"										110					— 149.7
	4:00	4:10	"			110	110											— 151.
	4:10	4:20	"															— 152
	4:20	4:30	"															— 152.3
	4:30	4:40	"	110												110		— 152.7
	4:40	4:50	"	99	99	102	99	100	107	107	109	108	95	95.5	102	102		— 154.7
	4:50	5:00	"											50	100			— 157.
	5:00	5:10	"													100		— 158.3
	5:10	5:20	"										100					— 158.7
	5:20	5:30	"								110.5	112						
	5:30	5:40	"	95	107.7	105	94	95	103.7	104	110.5	114	114.7	112.5	112.5	117		77 Temp
	5:40	5:50	"	111.5	111.7		113.2			110.5	100							— 163
	5:50	6:00	"									110	✓	✓	✓	✓		— 163.3
	6:00	6:10	"						100									— 164.7
	6:10	6:20	"															— 166.
	6:20	6:30	"						100									
	6:30	6:40	"	89	50	50	74	50	99	95.5	100	95						— 166.3
	6:40	6:50	"					50										— 167.3
	6:50	7:00	"			✓	50	✓			50							— 167.7
	7:00	7:10	"															— 169.
	7:10	7:20	"	72.5			✓		91.7	69.5			92					
	7:20	7:30	"	50						50								— 174.7
	7:30	7:40	"															— 175.3
	7:40	7:50	"						68.5				72.2					
	7:50	8:00	"						50			50						— 182.3
	8:00	8:10	"	117	122	120.5	115	115.5	111	114.7	115.5	115.5					77	— 183.7 Temp
	8:10	8:20	"	✓	✓				✓	✓			✓					

| DATE | TIME | | |

DATE	TIME PM	MIN	AMB	404	488	481	483	482	466	467	468	398	461	462	468	469	dolls	
6/30/09	2:00	/80	40	/122	/07	/072	/104	/114	/115	/104	/107	/109	/122	/112	/115	/12		
	3:00	/80	"	/122	/122		/110			/109		/109	/110		/047		785 Temp.	
	12	230	"	/087	/019	/062	/07	/081	/125	/127	/114	/110	/077	/087	/072	/097		— 137.5
	26½	206½	"		100													
	30	210	"	/061	982	/024	/042	/047	/106	/108	/122	/092	/045	/047	/047	/047		
	40	220	"	/034	947	/007	/02	/037	/072	/095	/111	/072	/042	/07	/004	/037		
	41	221	"			100									100			— 147.3
	42½	222½	"				100							100				— 148.3
	46½	226½	"										100			100		— 151.
	47	227	"															— 151.3
	49	229	"															— 152.7
	50	230	"	/100	921	96	985	100	/047	/072	/109	/052	867	712	50	747		— 153.3
	50	230	"											50				— 154.7
	56	236	"													50		— 157.3
	57	237	"															— 158.
	1:00	240	"	96	845	877	945	992	1026	/025				50				
	1:00	240	"	/082	/057		/04			/123	/037	/017						
	02½	242½	"														800 Temp.	
	04½	244½	"								/100	/027	/082		/227			— 162.5
	06	246	"							100		100						— 163.
	08	248	"											✓	✓	✓	✓	— 164.
	09	249	"		50	50												— 165.3
	10	250	"	92			797	50	977	925								— 166.
	10½	250½	"					50										— 166.7
	14	254	"				50											— 167.
																		— 169.3
	20	260	"	/077	✓	✓	✓	✓	897	50	50	97						
	22½	262½	"	50									904					— 173.3
	30	270	"						59		✓							— 175.
	32½	272½	"						50				735					
	36	276	"	✓						✓			50					— 181.
																		— 174.

DATE	TIME	MIN	AMB	464	468	481	482	483	466	467	468	398	464	482	469	469	Bulb Temp	
				172	95		113			120	122	204	(38)		(38)			
6/3/09	Charge P.M. 4:45	0	30	123	122		122			119		117	117		105	80	Temp	
	5:45	60	"	119	122		118			114.5		112	112		111	79		"
	6:45	120	"	113	117		117			108		109	109		111	80		"
	7:45	180	"	109	115		117			105		106	104.5		109	80		"
	8:45	240	"	106	110		107			103		102.5	102.5		107	79.2		"
	9:45	300	"	104	109		104			101.5		102	102.5		107	79.5		"
	10:45	360	"	105	107.5		104			102		102.5	102.5		105.5	79		"
	11:45	420	"	104.5	106.7		104			102								
	11:45	420	"	177	175	172.5	173	173.5	168	177	171.5	109	172.5	172.2	172.5	172.5	P.D. READING	
		Discharge																
6/4/09	A.M. 12:00	0	40	124	133	129	131	131	133	132	132	132	132.5	131.5	131.5	133		
	10	4	"	133	133	133	133	133	133	133	133	132.5	132.2	132	133	133		
	1:10	10	"	131.5	131	131	131	131	132	131.7	131	133	130.5	131.2	131	131		
	1:30	40	"	128	127.7	127.7	127	127	127.5	127.2	127	127.7	127.7	127.5	127.7	127		
	1:40	40	"	125	124.2	124.5	125	125	125.7	125.5	127.5	126	125	124.5	125	125		
	2:00	60	"	122	121.5	122.5	123	123	123.5	123.5	127	125	122.5	122.2	122.2	123		
	2:00	60	"	107	105.5		107.5			104.5		105.5	106		110	79	Temp	
	3:00	80	"	122.5	119.5	121	121.5	121.5	121.7	121.7	122	121	121	120.5	121	121.5		
	4:00	100	"	117.5	117.5	119	120	120	120	120.2	127	119.7	119	119	119	119.7		
	5:00	120	"	117.5	116	117.7	118.7	118.5	119	119	120	117.2	117.7	117.5	117.5	118		
	6:00	120	"	107	112.5		109			107.5		106.5	109		111	79	Temp	
	7:20	140	"	116	114	115.7	116.5	117	118	116	119	117.5	116.2	115.7	116	116.5		
	8:40	160	"	114.2	111.7	113	114.2	115	117	117	117.7	116.2	115	114	114.5	115		

DATE	TIME	MIN	AMPS	404	488	481	482	483	466	467	468	398	557	552	568	569	TEMP IDLE	
6/4/[illegible]	AM 3.00	180	47	111.5	108	110	111	111.7	115	115	116	114	112	111.5	111.7	112.2		
	3.00	180	"	111	113		112.2			108		109	110.5		114.5		73	Temp
	2:[illegible]	200	"	107	112.5	106	106.5	108	112	112.2	112.7	111	109.7	108	110.2	109.7		
	.30	21[illegible]	"	105.7	100	104.2	105.5	107	111.5	111.7	113	110	110.2	[illegible]	[illegible]	[illegible]		— 140.
	.4[illegible]	2[illegible]	"	102.5	97	111.5	102.5	114.2	109.5	109.7	111	108	125	105	110.7	115		
	.43½	2[illegible]½	"											110	100			— 149.
	.45	225	.			100												— 150.
	.48	228	"	100			100						100					— 152.
	.50	230	"	99.5	93.5	96	100	101.7	107	107.7	109	105.7	96.87	5[illegible] 50		100		— 153.3
	.51½	231½	"															— 154.3
	.55½	235½	"					100					50			50		— 157.
	.57	237	"															— 158.
	.58½	238½	"															— 159.
	[illegible]	[illegible]	"	95	86.2	91	95	96	104	104	114.7	112.2	50					
	1.00	[illegible]	"	114.5	118.2		117.5			112	100	113	120	121	123	123.2	79.7	Temp — 162.7
	.04	244	"									100	✓	✓	✓	✓		— 164.3
	.06½	24[illegible]½	"							100								— 166.
	.09	249	"		50	50												— 166.3
	.09½	249½	"															— 166.7
	.10	250	"	69			80	68	100	97	67 50	99						— 167.3
	.11	251	"			✓												— 168.
	.12	252	"					50										— 169.3
	.14	254	"				50											
	.20	260	"	66				✓	91	63		93						— 174.3
	.21½	261½	.				✓			50								— 174.7
	.22	262	"	50														
	.30	270	"						66 50			79						— 182.
	.33	273	"									50						— 185.3
	.38	278	"															
	.30	27[illegible]	"	120.2	124	125.5	122.7	123.5	114.5	115.5	118.2	116.2					80	Temp
				✓	✓				✓	✓	✓							

DATE	TIME	MIN	SEC	404	405	411	412	413	414	415	416	417	418	419	420	421	422	423	424		
6/4/09	Charge			114	92		(114)				(112)						(122)	122	(122)		
	4:55	0	30	1112	1114		1225				1125						1172	119	1125	60	Temp
	5:55	60	"	119	1224		117				1127						113	1125	1125	40.5	"
	6:55	120	"	1117	1125		1125				1085						1092	1095	1125	81	"
	7:21	146	"																		"
	8:55	240	"	106	112		1097				1095						1012	109	1092	81	"
	9:55	300	"	1045	108		1095				1045						101	101	106	80	"
	10:55	360	"	1053	106		102				9925						100	100	1092	79.7	"
	11:55	420	"	101	101		1005				100						99	100	1085	79.5	"
	12:55	480	"	126	1148	1122	113	123	1197	1117							1165	117	1125	176	1092	178	P.O
											Discharge										
6/4/09	PM 1200	0	40	149	1422	142	141		1412	1422	1421						142	1432	140	1392	139	1353	
	04	4	"	1334	93	133	133		133	1332	1332						133	135	1332	1322	133	133	
	10	10	"	131	1301	1307	1362		1307	131	131						130	132	1362	130	1305	1307	
	20	20	"	1232	1233	122	1232		126	124	1232						1232	1235	1232	123	1232	1232	
	40	40	"	125	124	125	1225		125	125	125						126	126	1242	1245	125	125	
	1:00	60	"	1217	1207	1222	1225		1225	1227	1225						1227	1222	122	122	1225	1222	
	1:00	60	"	1032	1082		1052				1025							1032	104	1022		79	Temp
	20	80	"	1192	1185	1204	121		1207	1212	1212						1222	1205	1205	1205	1202	1205	
	40	100	"	1165	1162	1192	1197		1192	1202	1201						1192	1192	1192	1192	1192	1195	
	2:00	120	"	1172	1185	1176	118		118	1192	1192						120	1185	118	1177	1175	118	Temp
	2:00	120	"	105	109		107				104							105	106		108		78.5
	2:20	140		1152	1122	115	1152		1158	1122	1177						1185	117	116	1155	116	1112	
	2:40	160		114	111		1122		1130	114	112						118	116	114	114	114	115	

DATE	TIME	MIN	AMPS	401	483	481	482	483	466	467	468	478	479	480	568	569	TEMP
																	IDLE
6/4/09	3.00	/80	1/0	1104	1065	1092	110	1107	1145	1145	1147	1137	1122	1112	1115	1122	
	3.00	/80	"	1107	1102		119			1002		1077	1087		1132		77.7 Temp.
	.20	260	"	166	1018	105	106	107	112	112	1150	111	110	108	109	1037	
	.24	204	"		100												— 136.
	.30	210	"	104	98	103	104	105	110	111	112	109	102	105	106	106	
											111	1032	1095	111	100	104	— 146.7
	40	220	"	1015	96	100	102	1025	985	1095				100			— 149.7
	44½	22½	"	100													— 150.
	45	225	"				100						100			100	— 150.7
	46	226	"														— 151.
	46½	226½	"					100									— 151.3
	47	227	"											50			— 153.
	47½	227½	"														
	50	230	"	96	91	94	97.2	98.2	100	100.7	1097	1037	1047	1045		77	— 155.7
	53½	233½	"											50			— 156.7
	55	235	"										100			50	— 157.3
	56	236	"														
	4.00	240	"	722	732	805	917	907	1015	1047	1007	1002					
	4.00	240	"	110	1145		1147			1077		1117	1117		1202		77.5 Temp.
	10½	242½	"								100	100					— 161.7
	103	243	"								100		✓	✓	✓	✓	— 162.
	103½	243½	"							100							— 162.3
	105	245	"														— 163.3
	105½	245½	"		50												— 163.7
	107	247½	"			50					50						— 165.
	108	248½	"														— 165.7
	109	249½	"					50									— 166.2
						✓											
	110	250	"	842			622		96	905		97					
	111½	251½	"				50			50							— 168.
	112	252	"					✓									— 171.7
	112½	252½	"	50	✓		✓		.81			882					— 172.2
	20	260	"						50								Cells 478, 479, 480
	27	267	"	✓								.72					178.
	30	270	"									50					were connected in
	35	275	"														Endurance Section
																	after this discharge
																	for 50. runs

Cells 551, 552, 558, 559. were removed and connected up on testing board for overcharge tests.

See 6.7.09 in individual record book.

1833

DATE	TIME	MIN	AFTR	404	488	481	482	483	466	461	468	378	478	479	480	TEMP IDLE	
6/4/09	Charge PM			144	97		115			122	124	207		124			
	6:45	0	30	1205	1332		1177			116		1245		1205		77.2	Temp
	6:45	60	"	1067	120		113			1112		1085		1032		77.2	"
	6:45	120	"	1117	1157		1087			1075		1027		102		77.5	"
	7:45	180	"	1082	102		1062			1025		103		101		77.7	"
	8:45	240	"	1062	1092		1032			1025		101		100		78	"
	9:45	300	"	1035	1067		1015			101		100		992		78	"
	10:45	360	"	1017	1067		101			1005		997		992		77	"
	11:45	420	"	102	1067		101.5			100		1005		992		77.5	"
	11:45	420		1077	1157	103	1137	1137	110	1177	1175	1175	112	1172	115		P.D. TEADING
				Discharge.													
6/5/09	A.M. 12:00	0	40	145	147	143	141.5	141.5	143	142.5	142.5	142.5	142	142.5	137		
	:01	1	"	133	132	132	133	132	134	133	132.5	132.5	132	132.5	132.5		
	:10	10	"	130.5	131	131	131	131	131.5	131	131	132	131	132.5	132.5		
	:20	20	"	128.5	128	128	128.5	128.5	129	128	128.5	129	128.5	128	128		
	:40	40	"	125	124.5	125	125	125	125.5	125	126	126	125	124.5	124.5		
	1:00	60	"	122.5	121.5	122.5	123	123	123.5	123	124	123	122.5	122.5	121.5		
	1:00	60	"	104	108.5		104			104		102.5		102.5		77	
	:20	80	"	120.5	119.5	121	121.5	121.5	121.5	120	122.5	121.5	121	122.5	120		
	:40	100	"	118.5	117	119	119	119.5	119.5	120	121	119.5	120	119	119.5		
	2:00	120	"	117.5	116.5	117.5	118	118	119	119.5	120	118.5	119	118	117		
	2:00	120	"	105.5	109		107			109.5		109.5		103.5		76.5	
	2:20	140	"	116	114	115.5	116	116	117	118	119	117	117.5	117	116		
	2:40	160	"	114	111	113	113.5	114	114.5	116.5	117.5	115.5	116	115	114.5		

DATE	TIME																			
					464	465	466	462	463	466	467		468	398	470	471	472	106		
6/8/09	3:00	180	40	112.5	117.7	110	110	111	115	115			116	114	114	112.5	112			
	3:05	185	"	115.7	117.7		108			116.5				105.5		107		76		Temp
	10	190	"		105.5															
	20	200	"	107.5	112.5	116	116	107		112.2	112.2		112.7	111	112.7	110	112.7			
	25	205	"		108															
	30	210	"	105	99	105.5	115.5	115		110.5	111		112.2	113	112	113	112.7			— 138.7
	35	215	"	111.5	99.7	100	105.2	102		108.2	108.5		111.2	112.5	111.5	112.5	115			
	40	220	"				100													— 144.7
	45	225	"	100																— 145.7
	50	230	"					100												— 150.7
	55	235	"	97	91	97.5	96	97		105	105.5		117	113	115	113	112			— 153.3
	4:00	240	"	93	97.7	97	90.5	90.5		102	102		111	100.2	111	111	112			— 160.
	5:00	240	"	111	112.5		112.5				108.5			108.5		112		75.5		Temp
	02	242	"											100						— 161.7
	05	245	"										113		110					— 162.
	08	248	"							100										— 162.7
	10	250	"						100											— 163.3
	07	277	"		50															— 164.7
	10	280	"			50							50							— 165.7
	13	283	"					50												— 166.3
	15	285	"			✓	50													— 167.6
	17	287	"				✓	✓			50				50					— 170.3
	18	288	"																	— 172.
	19	289	"	50	✓															— 173
	20	290	"						82					177	✓	172	171.2			
	25	295	"						50											— 178.7
	30	300	"											172.5		57.5	60			
	35	305	"	✓												50				— 181
	40	310	"											50						— 183.3
	45	315	"													✓	52.2			
	50	320	"														50			— 187.6
	55	325	"	111.7	120.5	120.7	121.2	120		112.5	116		114.2	113	117	115.5	113	75.2		Temp
																	✓			

DATE	TIME/MIN	AMB	404	488	481	482	483	466	467	468	398	471	479	470	TEMP IDLE	
6/5/09	charge		145	98		116			123	125	108		125			
	A.M. 145		117	122		119			117		117.7		117.7		76.2	Temp
	245		117.7	119		119			117		117		113		76.5	"
	345		117.5	116		109.5			106.2		108.5		107		75.5	"
	445		107.5	111		105			102		104		102.5		75.5	"
	545		103.2	109		102			99.2		99.7		99		76	"
	645		101.2	104.7		99.7			97.5		99		99.7		76.2	"
	745		100	103		97.7			97.2		96.2		97.7		76.7	"
	845		99	109		95			98		96.5		98		76.5	"
	945		103.2	110.7	112	113.7	117	119.5	118	112.2	113.2	113	113.7	116		TEMPERING over Sunday
			Stood thirty six hours													
			Disc charge													
6/7/09	A.M. 12:00	0	110	123	122.5	120.5	119	117	117.5	117.2	117.5	123	122.5	122	79	Temp
	12:00			79.5	79.5		79.5			79.5						
	104	"		122.5	122.5	122.5	122.5	122	122.7	122.5	122.5	122	122.5	123		
	1.0	1.0	"	121	119.5	120	121	121	121.7	121.5	122.5	121.5	122	121		
	2.0	2.0	"	119.7	117	119.5	118.5	120	120.5	120.5	121	120	120	120		
	4.0	4.0	"	117.2	116	117	117.7	118.7	120	120	119.7	120	119.7	119		
	100	6.0	"	116	117.7	117	117.7	117.7	117	117.5	117	117	117.7	117.2		
	1:00	6.0	"	87	88.5		88			96.5			97.2	97.5	79	Temp
	2.0	8.0	"	115	115.5	116	116.5	116.5	117.5	117.7	116.5	116.2	117	116.2	116.7	
	4.0	10.0	"	114	115.5	116	116	115.5	116.5	116.5	116	115.5	116	115.7	115.5	
	200	12.0	"	112.5	113.7	114	113	113	113.7	113.7	112.7	112.5	112	112.7	112	
	200	12.0	"	97	96		99			96			97	96	78	Temp
	2.0	14.0	"	110.5	105	107	109.5	112.5	113	112	109.5	113	112.7	113.7	112	
	4.0	16.0	"	108	105.5	106	107	108	113	113	111	112	111.5	112		

DATE	TIME	MIN	AMB	404	488	481	482	483	466	467	468	398	478	479	480	TEMP	IDLE
6/7/79	2.47½	167½	40		100												— 111.7
	2.50	170	"	106.2	96.2	80.4	105	106	111.7	111.7	113	109.5	111	110	108.2		
	3.00	180	"	104	93	102	103.5	104	110.2	110.2	110.7	107.5	109.5	106.2	107		
	3.[illegible]	[illegible]	"	95 101.7	100.5 92	100	100 100	102	109	99 109	100.2	95 105.7	110	95.5 107	105	77	Temp
	.13	190	"														— 126.7
	.15½	195½	"														— 130.3
	.17	197½	"					100									— 131.7
	[illegible]	[illegible]	"	99 94.2	69 84	96 88.5	97 91.7	99 93.7	107 104.5	107.5 105	109 106.2 100	113 100	106.7 104	105 101.5	113 100		— 140
	.20	200	"														— 145
	.27½	207½	"														— 145.3
	.30	210	"											100			— 146.7
	.43	[illegible]	"	88	88	69	82.2	81.5	101	100.5 100	96.5	95	100	97.7	92		— 148.7
	.43	[illegible]	"						100								— 149
	.43½	[illegible]	"			50											— 149.7
	.44½	[illegible]	"		50												— 150.3
	.45½	225½	"								50						— 151.3
	.47	227	"							—							— 151.7
	.47½	227½	"			✓		50									— 152.7
	.49	[illegible]	"				50										
	.52	[illegible]	"	50	50				97	91 50		91	93	92.5	93.5		— 158.3
	[illegible]	[illegible]	"				✓	✓	85			83	50	84.2	17		
	4.00	240															— 160
	4.[illegible]	[illegible]	"	107	107.5	109.5	111	110.7	50	106	1[illegible]7	105	108	105		76.5	Temp — 164.7
	.07	247	"									50		69.5 50	29.5		— 166.7
	.10	250	"														— 169
	.15	[illegible]	"												63		
	.20	260	"	✓									✓		50		— 176
	.24	264	"														
	.25	265	"						109.2						109	76.2	Temp
														✓	✓		

| DA | | MIN | | |

DATE	TIME	MIN	PITR	404	478	481	482	483	466	467	468	378	478	479	480	TEMP. Dale
6/7/09	P.M. 3.00	180	40	.112	1.095	.111	.1112	.112	1.105	1.052	.116	.1137	.112	.1137	1.125	
											.1145		.1127			84 Temp.
	3.00	180	"	.1112	.114		.1137			.1205	.1135	.1085	.111	.110	.1085	
	.25	205	"	.062	.103	.106	.106	.072	.112	.117	.111	.106	.1087	.107	.1047	— 143.3
	.50	215	"		.100											
	.40	220	"	.102	.98	.1025	.027	.104	.1082	.092						— 150.3
	.45	220½	"	.100												— 152
	.48	220	"			.100										— 152.7
	.49	220	"				.100									— 154.7
	.52	222	"					1.00								
	.53	223	"	.967	.917	.97	.98	.97	.1045	.1055	.107	.102	.1047	.103	.1022	
	.59½	224½	"								.100	.100	.1025	.102	.100	— 159.7
	4.00	240	"	.937	.835	.905	.94	.93	.102	.102						— 160
	4.00	240	"	.1167	.127		.1212			.1187	.1165		.117		.1147	Temp.
										.100			.100			— 163
	.01½	241½	"					.100				.100				— 164
	.06	246	"													— 164.7
	.07	247	"		.50						.50					— 165.3
	.08	248	"			.50		.50								— 166
	.09	249	"													— 167.7
	1.14½	254½	"				.50									
	.15	255	"	.742	✓	✓		✓	.902	.645		.917	.921	.93	.945	
	.16½	256½	"						.50				.50			— 171
	.18	258	"													— 172
	.18½	258½	"	.50								.87		.89	.927	— 172.3
	2.0	260	"						.902							— 177
	2.04½	264½	"						.50							
												.572		.647	.745	
	.30	270	"									.50				— 180.7
	.31	271	"										✓			— 182
	.33	273	"											✓	.682	
	.40	280	"												.50	— 189.7
	4.44½	284½	"													
											.1237		.1237	.1212	.1245	Temp.

Cells 481, 482, 483 were removed from testing board for overcharge and connected up on separate board. ✓

See 6/7/09 in individual record book.

DATE	TIME	MIN	AMP	464	466	467	468	398	478	479	480	
6/1/09	Charge			#47	#100	#205	#127	#210		#(37)		Temp.
	4:55	0	2	126	131		126	126		126	85.2	"
	5:55	60	"	120.2	120.5		120	120		120.5	85.5	"
	6:55	120	"	117.2	117		113.2	115		114.2	87.2	"
	7:55	180	"	112	115		110.2	109		110.2	87.5	"
	8:55	240	"	109.2	109.5		107.2	106.5		108	86.	"
	9:55	300	"	106.7	107		104	105		106	86.7	"
	10:55	360	"	104.5	106.5		103.5	104.7		104.2	87	"
	11:55	420	"	104	106		104	104.2		104	86.2	"
	12:55	480	"	176	176		175.7	175.5	174.7	174.2	77.4	T.D. READING
	Discharge											
6/1	12:00	0	40	143.7	142.2	143.7	142.2	142	143	143	139.7	139
	.04	4	"	133	132.2	133	133	133	133	133	133	133
	.15	15	"	130.5	130	131	131	131	132.2	131	131	131
	.20	20	"	127	127	127.5	127.5	127	127.5	127.2	127	127
	.30	30	"	124.2	123.5	125	125	125.5	125.5	125	124.5	124.2
	1.00	100	"	122	121	123	123	124	123	123	122.2	122
	1.05	65	"	117.2	118		119		118		118	117 Temp
	.20	80	"	120	118.5	121	121.5	122.2	120.5	121	120.2	120
	.40	100	"	118.5	117	120	120.2	121	119	120	119.5	118.5
	2.00	120	"	117	115.5	119	119	120	118	118.5	118	117.5
	2.05	125	"	114	109		109		108.5		110	114.5 Temp
	.20	140	"	116.7	113.5	117.7	117	118.5	116.5	117.5	117	116
	.40	160	"	114	111	116.2	116.2	117.5	115	116	115	114

DATE	TIME/TIM	A/1E	40	48	46	47	48	378	478	479	480	TEMP TABLE
6/8/19	2:00		40	111	107	114.2	111	111.7	112.5	113	111.5	
	2:[illegible]			109.2	112.7		110		111.5	110	83	Temp
	[illegible]				105							
	160	2:30		107	102	112	112	113.5	113.7	111	111	
	38	2:35			100							138.7
	20	2:37		102	99	113.5	111	112	112	109.7	108.2	
	40	2:50		101	52	114	108.2	113	112	109.5	108.2	
	149/[illegible]	2:53/[illegible]		103								
	50	2:55		97	92	105	105.5	111.7	101.5	109.5	102	149.7
	53/[illegible]	2:57/[illegible]									100	
	55	2:55							100			155.
	20/[illegible]	2:57/[illegible]										156.7
	21	2:58						110		103		157.7
	4:00	3:03		91.7	102	111	100	55	97.7	101		158.7
											95	97	160.
	4:05	3:05		113	112	100	112		112.5		111.5	92	Temp
	32	3:07											161.8
	19/[illegible]	3:09/[illegible]			50			50					163.
	113	3:09		80		93	97.7		92	80.5	92.5	93.7	
	13/[illegible]	3:12/[illegible]					50						149.
	32	3:13								50			170.
	33	3:15		50									170.7
	20	3:20				65			75.5		72.2	87.5	
	25	3:22				50							175.3
	25	3:23							50		50		178.7
	20	3:30										74	179.3
	31	3:30										50	
	40	3:35											186.7
	45	3:[illegible]		121.2	119.2	120.5		116.5	✓	120	115	Temp
										✓	✓	

DATE	TIME	MIN	AMB	464	488	466	467	468	478	479	480	TEMP IDLE	
6/8/09	Discharge			1145	1151	(1126)	1125	1211		(1126)			
	4:55	0	22	123	122	1147		1217		1207	80.5	Temp	
	5:55	60	"	1147	1155	1152		1135		1172	80	"	
	6:55	120	"	1112	1112	1096		110		1097	79	"	
	7:55	180	"	107	1065	1037		104		1045	78.2	"	
	8:55	240	"	1033	104	100		102		102	78.5	"	
	9:55	300	"	100	1022	100		95		99	80	"	
	10:55	360	"	100	100	98		98		103	80	"	
	11:55	420	"	952	990	99		97		99	78	"	
	12:55	480	"	177	1757	179	1782	175	177	1747	177	177	O.D.
	Discharge												
6/8/09	PM 12:00	0	40	1157	1142	1155			1117	1141	1141		
	01	4	"	1332	1331	1326		1330	1332	1333	1333		
	10	10	"	131	1302	1312		1297	1312	1312	1312		
	20	20	"	1287	1282	1297		1295	1297	1297	1297		
	40	40	"	125	1242	1252	1252	1255	1252	1255	1255		
	1:00	60	"	1222	1214	1223	1235	1214	1223	1228	1222	1222	
	1:00	60	"	102	1037		103		1015		1022	787	Temp
	20	80	"	1201	1191	1212	1215	1225	1207	1212	1205	1202	
	40	100	"	1185	1172	1177	1202	1215	1192	1200	1195	1185	
	2:00	120	"	1172	1157	1180	1192	1201	118	1185	1181	1175	
	2:00	180	"	1035	1057		1052		1032		1044	787	Temp
	2:20	140	"	1150	1135	1172	1177	1155	1172	177	1165	1167	
	2:40	160	"	1135	1145	116	1162	1172	1145	1165	1145	1135	

DATE	TIME	MIN	RTB	704	488	466	467	468	398	478			478	480	TEMP IDLE	
6/8/09	3.00	18.5	.40	1005	1022	1137	[illegible]	[illegible]	1022	1126			1123	1167		
	3.00	18.5	"	1052	1055		1121		1066				1066		775	Temp
		.20	200		1.06	1.02	1.07	1.12	1.04	1.09	1.06		1.07	1.07		136.7
		.25	205	"		1.00										
		.30	210	"	1.03	.982	1.07	1.02	1.12	1.07	1.09		1.07	1.07		
		.38½	218½	"	1.00											145.7
		.40	220	"	.995	.942	1.062	1.081	1.01	1.037	1.065		1.041	1.017		151.3
		.45	225											1.00		
		.50	230		.952	.897	1.025	1.05	1.07	1.00	1.037		1.000	.982		153.3
		.55	235										1.00			155.3
		.58½	238½				1.00		1.00							157.7
		.58½	238½								1.00					159.
	4.00	2.0	"	.90	.76	.977	1.00	.942	.947	.985			.962	.945		160.
	4.00	2.4	"	1.02	1.08		1.08	.50	1.07				1.08		765	Temp
					.50											163.3
	4.10	2.50	"	.775		.88	.765		.90	.762			.902	.912		169.
	4.13½	2.53½	"				.50									169.7
	4.14½	2.54½	"	.50						.50						170.3
	4.15½	2.55½	"													172.3
	4.20	2.60	"			.50			.785				.775	.845		177.
	4.25	2.65½	"						.50				.50			178.
	4.27	2.67	"							✓						
	5.00	3.70	"											.632		
	5.38	4.08	"										✓	.50		185.3
														✓		

DATE	TIME	MIN	AMPS	404	488	466	467	468	378	478	477	480	TEMP. IDLE	
6/8/09	change			149	102	127		129	212		127			
	4:55	0	30	1095	087		110		111		126		75	Temp
	5:55	60	"	1097	095		105		107		102		75	"
	6:55	120	"	1047	106		101		107		100.5		74	"
	7:55	180	"	1012	101		96		97.7		97		75	"
	8:55	240	"	97.7	98.2		94.2		95.7		95		75	"
	9:55	300	"	97	97.2		94.7		96		95.7		75	"
	10:55	360	"	96	98		97		95.5		97.5		76.2	"
	11:55	420	"	95	95.5		97.7		94.2		95		77	"
	11:55	420	"	180	180	181.5	179.5	179.5	179	179.5	179.5	179.2		C.D.
				change										
6/9/09	A.M. 12:00	0	40	144.5	142.7	145	142.7	143	144	144	141	142.2		
	:04	4	"	133	132.5	132.7	132.7	132.5	133.5	132.5	133	133		
	:10	10	"	131	130.2	131.5	131.5	131	132.5	131	131	131.5		
	:30	30	"	128.5	127.7	129	129	128.5	130	128.5	128.5	128.5		
	:40	40	"	125	124	126	126.7	126	126	125.5	125	125		
	1:00	60	"	122	121	122.5	122.5	124	123	123	122.5	122.2		
	1:00	60	"	102	102		102.5		102		102.7	77.7		Temp
	:20	80	"	120	119	119.5	121.7	122.5	121	121	120.5	120		
	:40	100	"	118.5	118.5	120	120.2	121.5	118.5	119.7	118.5	118.2		
	2:00	120	"	117.5	116	119	119.5	121	117.2	119	117.2	117.5		
	4:00	180	"	102	104.7		103		102.7		104	78		Temp
	120	180	"	116	114.2	118	117.2	119	117	118	117.5	117		
	40	160	"	114	111.2	116.5	116.5	117.7	115	116.5	116.5	114.7		

DATE	TIME	MIN	AMP	404	444	446	447	662	398	478		479	480	104	
5/3/29	2:00		2	111	107	114.2	115	107	117	114		112.5	111		
	3:00	120	"	106	106		107		105.5			107		77.7	Temp 5
	.40	195	"		107										
	.20	210	"	107.7	107	107.2	112	114	110.5	111.7		111	105.2		
	.50	215	"	105.7	101.5	111	117	113	109	110.5		105.7	117		
	.39	231	"		109										— 142.7
	4:00	240	"	102	97	109	109.7	111	106.2	108		107	114		
	.47	267	"	100											— 151.3
	.50	270	"	97.2	97.7	102.2	107.7	109	103.7	106.5		97	107		
	.59½	329½	"										102		— 156.3
	5:00	330	"	97.7	97.7	102.2	103.7	103.7	100	102.5		100	97.7		— 160.
	4:30	390	"	109	109.7		110.2		109			111.7		75	75.5
	.35½	425½	"					100							— 162.3
	40	430	"			100						111			— 163.3
	.55½	495½	"							100					— 163.7
	.04½	529½	"				100								— 164.3
	.18	523	"					50							— 166.7
	.12	522	"	86	50	92.7	92.5		97.5	93		95	94		— 168.
	120	720	"	50.2		50	50		86.5	50		89.5	91		— 173.3
	.21	721	"	50											— 174.
	.26	726	"			50									— 179.3
	.30	730	"						70			95	94.2		
	.32	732	"						50						— 183.3
	.37	737	"									50			— 184.7
	.40	740	"										70		
	.47	747	"										50		— 191.7
	.47½	217½	"	115	117.5		117		115.5			112		79	Temp 5

Cells 469, 643, 646, 773, 774, 775 were connected in Endurance Section after this discharge for 6 runs.

DATE	TIME	MIN	AMP	404	405	643	642	646	466	467	444	373	372	373	440	373	374	375	1015	
6/9/09	Charge			130	102		(26)		(128)		130	213		(130)			(26)			
	AM 4.55	0	30	1225	119		79.5		120			1232		122			81.7		78.5	Temp
	5.55	60	"	1162	1142		84.5		113			116		1147			86		78.5	"
	6.55	120	"	111	115		87.2		1082			1107		109			89		78.5	"
	7.55	180	"	111	1085		89		1042			101		105			92		78.5	"
	8.55	240	"	1007	105		90		102			1025		1017			94		78.5	"
	9.55	300	"	1112	1025		92		1092			100		99			95		76.5	"
	10.55	360	"	993	101		93		97			977		989			97		76	"
	11.55	420	"	96.5	102		96		98.2			98		01			98.5		76	"
	11.55	420	"	1112	1122	1165	1129	1142	1142	1127	1122	1132	1124	1126	1122	1124	1129	1125		C.D
				Discharge																
6/9/09	PM 12.00	0	40	144	142.2	1445	144.4	144	143.7	143	143	143	141	141	142	142	142	142		
	04	4	"	132	132	1342	1342	1342	132	132.31	132	133	133	133	133	133	133	133		
	10	10	"	131	131	132	132	131	131	131	131	132	132	131	131	132	132	132		
	20	20	"	1237	1231	129	129	129	129	129	129	129	129	129	129	129	129	129		
	40	40	"	05	125	1257	1255	1256	1256	125	1262	126	125	125	125	125	125	125		
	100	60	"	1232	1237	1235	123	123	123	123	124	123	123	1225	1225	1225	123	123		
	1.00	60	"	1012	1025		109		1014			1024		1012			1047		77.5	Temp.
	20	80	"	1205	1197	1217	1206	1222	1217	1217	1221	1205	1222	1215	1212	1217	122	1222		
	40	100	"	1184	1174	120	1184	1202	120	120	1214	1187	1184	1187	1185	120	1197	1195		
	2.00	120	"	1172	1162	1167	1181	1192	119	1199	1189	1175	1165	115	1172	1167	1185	1183		
	20	120	"	1022	1015		1025			1022		1015		102			1025		74	
	40	140	"	1157	1145	1175	117	1187	1177	1178	1187	1162	1172	1165	1157	1177	1175	117		
	40	160	"	1137	1132	1162	1155	1165	116	1165	1135	1145	1155	1147	114	1167	1172	1157		

DATE	TIME	MIN	AMB	407	408	469	672	676	466	467	468	398	478	479	480	773	774	775	Odlw Temp.
6/9/07	AM 3:00	180	40	1.007	1.092	1.114	1.14	1.14	1.145	1.145	1.147	1.12	1.132	1.122	1.111	1.142	1.14	1.142	
	3:00	180	"	1.02	1.085		1.072			1.072		1.045		1.035			1.12		74 Temp.
	3:00	200	"	1.062	1.082	1.124	1.12	1.132	1.115	1.12	1.305	1.082	1.10	1.097	1.107	1.137	1.13	1.122	
	3:00	210	"	1.03	1.00	1.112	1.107	1.12	1.097	1.12	1.12	1.045	1.085	1.01	1.104	1.125	1.12	1.11	
	.35	215	"		1.00														- 143.3
	.40	220	"	1.002	8.77	1.10	1.097	1.11	1.077	1.097	1.107	1.03	1.067	1.035	1.03	1.117	1.11	1.10	
	.40	220	"		1.00														- 147.
	.40	220	"									1.00			1.00				- 152.3
	.40	220	"																- 153.
	.50	220	"	.965	.873	1.08	1.077	1.092	1.05	1.047	1.077	.994	1.032	1.00	5.94	1.02	1.09	1.08	- 153.3
	4:00	240	"	9.17	8.75	1.044	1.04	1.044	1.045	1.047	1.00	9.52	1.00	9.94	9.62	1.02	1.045	1.042	- 160
	4:00	240	"	1.06	1.117		1.077			1.08		1.06		1.06			1.065		74 Temp.
	.01	241	"				1.00			1.085									- 160.3
	.06 1/2	246 1/2	"			1.00													- 164.3
	.07 1/2	247 1/2	"															1.00	- 165
	.08 1/2	248 1/2	"		.50			1.00			.50						1.00		- 165.7
	.10	250	"																- 166.7
	.14	254	"													1.00			- 169.3
	.15 1/2	255 1/2	"						.50								.50		- 170.3
	.16	256	"										.50						- 170.7
	.16 1/2	256 1/2	"				.50											.50	- 171
	.18 1/2	258 1/2	"	.50													✓	✓	- 172.3
	.19 1/2	259 1/2	"			.50	✓												- 172.7
	.20	260	"			✓													
	23 1/2	263	"					.807	.76										
	.25	265	"									.742		.76	.872	.81			
	25 1/2	265 1/2	"					.50	.50							.50			- 175.3
	.26	266	"																- 176.7
	27 1/2	267 1/2	"									.40				✓			- 177.3
	.28	270	"					✓						.50					- 178.3
	.40	275	"												.725				
	.46	280	"												.556				
															.50				- 190.7
															1.05			74	Temp.

DATE	TIME	MIN	AMB	464	468	469	643	646	466	467	468	398	478	479	480	772	774	776	dole Temp.
6/9/09	Charge			101	104		27		(129)		101	214		(101)			(27)		
	P.M. 4:55	0	30	114	112		112		114			115		112			122		73.7 Temp
	5:55	60	"	113.2	111.		109.2		109			111.5		109			115		74 "
	6:55	120	"	109	115		105		106			106		107			111.2		73.7 "
	7:55	180	"	106	109.2		103		106			103.2		102			108		74 "
	8:55	240	"	102	106.5		101		99.5			100.7		100.2			106.7		74.7 "
	9:55	300	"	101	101		100.2		99			98.5		98.2			106		74.7 "
	10:55	360	"	101	103.5		100.2		99			99.5		99.2			105		75 "
	11:55	420	"	101	102.7		101.7		100			100		99			106.2		75 "
	11:55	420	"	117.2	117	117	117	117.7	117.7	116	116	116.7	114	117	114.5	115.7	115	116	TEMPERADING
6/10/09	Discharge																		
	P.M. 12:00	0	40	145	137.7	145	145	144	144.7	142	142	142.5	140.5	139.7	142	142.5	142		
	.04	4	"	134	133.5	134	133.7	134	134	134		133.7	133.7	133.7	134	133.7	133.7	133	
	.10	10	"	131.7	131.5	132	132	132	132	132		131.7	133	132	131.7	132	131.7	131.7	
	.20	20	"	129	128.5	129	129	129.7	129.7	129.5		129	130.2	129.5	129	129.5	129	129	
	.40	40	"	125.5	126	125.7	125.5	126	126	126		126	126.5	125.5	125.5	125.7	125.5	125.7	
	1.00	60	"	123	123	123	123	124	123.7	123.7		124.5	123	123	122.5	123	123.5	123.5	
	1.00	60	"	103	102.5		103		102.5			103.5		103		102.5		76	Temp
	.20	80	"	122.5	120	121.5	121	122	121.7	122		123	121	121.5	121	120.5	121.5	121	121
	.40	100	"	118.7	118	118.7	119	120	120	120.5		121.5	119	120	119	118	119.7	119	118.7
	2.00	120	"	115	117	115.5	115	119.5	119.5	120		120.5	115.5	119.5	115.5	117	115	115.5	115
	2.00	120	"	105.5	106.7		106.5			104		104		103		103		76	Temp
	.20	140	"	116.5	115	117	117	115	115.5	115.5		119.7	117	115	117	116	115	117	115.5
	.40	160	"	114.2	112.2	115.7	115.5	116.5	117	117		115	115.5	116	115.7	115	116.7	115	116

DATE	TIME			424	428	429	643	644	646	647	648	656	657	658	660	773	774	775	IDLE	
8/10/09				117	117	117	117	115	115	115	116	113	114	115	115	115	114	114		
				106	115		108			125		105		115.7		115			77	Temp
	.10				105						114	109.2	111	113	113	112	112.5	112.5		
	.20			107.2	105	112	111.7	113	112.2	113		105	109	113	109.2					
	.30			105	112															
	.40			111.5	109	112	111.5	111.5	108	109	111	109	109	114.5	111.5	111	109	109.7		144.
	.50			100												100				
	.00			97.5	112.5	112	115	115	105	106.2	105.7	110.5	109	110	109.5	111	105	107		150.7
	.10											100								
	.20													100						155.3
	.30													100						156
	.40					100	100													
	.50															109	109			158.3
	4:00			93	87	94	97.2	109	111.5	112.2	102	92	100	97.5	91.7	90	94.7	100		159.7
	.10										100									160.
	.20								100	100										161.3
	.30																			162.3
	.40							100												163.
	.50															50	50			163.3
	.00																			163.7
	.10			111.2	114		113			106.5		109		102.7			121		76.5	Temp
	.20						50									✓				165
	.30										50						✓			166.
	.40					50	✓											50		166.3
	.50																	✓		167.
	5:00					✓		50												169.7
	.10								50											171.7
	.20			50			✓						50							172.
	.30																			172.7
	.40							78.5				83		84	84.5					
	.50							50												176.7
	.00											50		53.7	79					180.
	.10													50						180.7
	.20														60.5					
	.30														50					189.
	.40			117	122.5		122.5			117		113.5		115			122		77	Temp

DATE	TIME	MIN	AMPS	461	462	463	462	464	465	466	398	398	459	460	773	774	775		1DLE	
6/9/09		Charge		1.52	125	(125)		(130)		1.22	2.4		(132)			(2.5)				
	4:25	0	20	127	125	125		127			116		129.5			129.5		77		Temp
	4:45	20	"	125	121	123		125			122		123			123		77		"
	5:05	40	"	121	115	122		122			118		107			117		77		"
	5:25	60	"	115	112	122		122.5			112.2		104			109		77		"
	5:45	80	"	104	107	112		108			101.2		102			103		76		"
	6:05	100	"	101.5	101	100		98			99		98			105.2		75		"
	6:25	120	"	99	104	96.5		98			97.2		96.5			104		76		"
	6:45		"	100	103	99.7		97.7			97		95.5			104		76		"
	7:05		"	103	107.7	107	107.5	107.7	108	108	108.5	106.5	107.4	107.5	107.4	107.7	107.7			C.O
				Discharge																
6/10/09	PM 12:00	0	40	1.47	140	145	1.44.2	1.44.5	140	1.44.2	144	145	1.42.7	1.42.7	142	1.42.2	1.42.2			
	04	4	"	1.37	1.35	1.35	1.37	134	1.34.5	1.34.2	134	134	1.33.2	1.33.7	1.33.5	1.33.7	1.33.5			
	10	10	"	1.31.2	131	1.31.5	131	131.7	131.5	131	1.31	1.30.7	131.2	131	131.7	131.5	131	131		
	20	20	"	1.26.2	126	1.26.2	126	1.26.2	126.2	126	126	126	1.26.7	126	126	1.26.5	1.26.7			
	40	40	"	125	125	125	125	125.5	125.7	125.2	125.7	126	125	125	125	125	125			
	1:00	60	"	1.22	1.21.5	1.22.7	1.22.5	1.23	123	123.2	123.2	123.2	122.2	122.2	123	122.5	122.5			
	1:00	80	"	1.21.7	1.21.7	1.21				1.21.7		1.21	1.20.7	1.20.7	1.21.2	1.20.7	121			Temp
	20	100	"	1.20.2	1.19.5	121	120.7	121.7	121.5	120.7			120.5	121	120.7	120.2	120.2			
	40	100	"	1.19.5	1.19.5	119.5	119	120.5	120.5	120.2			119.7	119	119.5	119.7	119.2			
	2:00	120	"	1.18.7	1.18.7		1.18.7			1.18.7			1.18.2		1.18.7		1.18.7	75	Temp.	
	2:00	120	"	1.18.2	1.17.5	118.5	118.5	118.5	118.7	118.5	118.7	118.5	118.7	118.5	118.2	118	118			→ Readings mixed
	20	140	"	1.17.2	1.17	117.5	116	117	117.5	118	116.5	116.5	117	116.5	116.7	116.5	116.7			
	40	160	"	1.16.2	116.2	115	115.5	116.7	116.2	116.5	116.2	116.2	115.5	116.5	115.7	115	115			

DATE	TIME	MIN	AMPS	424	466	455	645	646	466	427	468	356	428	439	456	373	374	375		IDIF	
4/10/09	P.M. 3:00	180	40	1107	1082	1135	1113	1142	1142	1145	1157	1112	1132	1125	1087	1142	1139	1137			
	3:00	180	"	1065	1092		1079			1065		1166		1065			1146			707	Temp
	22	202	"	1068	1035	1111	1111	1122	1117	1122	1137	1082	1110	1092	1045	1122	1115	1119			
	30	210	"	1047	1005	1072	1072	1111	1110	1107	1112	1061	1082	1066	1021	1107	1097	1102			
	31	211	"		1000										1000						141.
	31	211	"																		146.
	40	220	"	1005	967	1017	1075	1092	1075	1085	1105	1032	1061	1025	975	1082	1062	1081			
	41½	221½	"	1000								1000									148
	48½	228½	"																		152.3
	50	230	"	962	925	1022	1032	1067	1042	1065	1074	992	1027	1000	972	1000	972	1030			153.3
	50	230	"			1000															155.7
	51½	231½	"				1000														156.3
	52½	232½	"															1000			157.
	53½	233½	"													950					158.3
	55	235	"																		158.7
	59	239	"								1000		1000				1000				159.3
	4:00	240	"	910	834	812	778	1000	1000	1012	984	916	987	982	905		1077				160.
	4:00	240	"	1107	1065		1082			1122		1117			1127		1126			76	Temp
	03	243	"			950				1000							950				161.7
	07	247	"				1000				950										162.
	08½	248½	"		950																164.7
	09½	249½	"			1000											1000				165.7
	10	250	"	815				950													166.3
	10½	250½	"						927	816		907	877	912	917						
	16½	256½	"					1000		950											169.
	17	257	"	950									1000								171.
																					171.3
	20	260	"						707			802		817	816						
	23	263	"						950			950									175.3
	25	265	"											950							178.7
	28½	268½	"												727						179.7
	30	270	"												950						180.
	39	279	"																		

Cell #482 put in line for 50 more ensuing runs.

DATE	TIME	MIN	A/118	704	488	467	643	646	482	466	467	468	398	478	479	48	773	774	776	TEMP HOLE
6/10/09	Charge		103	106		(29)		121		(131)		(133)	216		(133)			(29)		
	4:45	0	30	122/217		119		77.2		117			117.7		118			123		76 Temp
	5:45	60	"	116	120.7		111.7		107		111		113		111			118.2		76.2
	6:45	120	"	117	122		108.2		92		107		107.2		108.2			113		76.5 "
	7:45	180	"	109	112.7		106		94		106		107		106.5			110.7		77 "
	8:45	240	"	104	109.7		103		97.5		102.7		103.7		103.2			110		77.2 "
	9:45	300	"	103.5	106		101		97.7		102		100		101.7			107		77.2 "
	10:45	360	"	101.7	107		103		98.2		102.7		100		101.7			107		76.5 "
	11:45	420	"	102	105		103.5		99.7		103		100.5		102			107.2		77.7 "
	12:45	420	"	102.2	106.2	106.5	106.5	106.5	102	102.5		102	102	102	102.2	102	102.5	102.5	102	T.P. THEADING
6/11/09	Discharge																			
	12:00	0	1/0	144	143	143.7	142	142.5	141	141	141.5	141.5	141.5	139	139	137.7	135	135	135	
	.04	4	"	132.5	132.2	132.5	132.5	132.5	132.2	133	133	132.5	132	133	132.2	133	132.2	132.5	132.5	
	.10	10	"	130.5	130.2	130.5	130.5	130.5	130.2	131	131	130.5	132	131	130.5	131	130.5	130.5	130.5	
	.20	20	"	127.5	127	127	127	127.5	127	127	127.5	127	127.5	127	127	127	127	127	127.5	
	.30	30	"	124.2	124	124.7	124.7	124.7	124.5	125	125.5	125.5	125.5	125	124.5	124.5	125	125	124.5	
	1.00	60	"	122	121	122	122	123.5	122.5	123	123	122.5	122.7	122	122	122	122	122	122.5	
	1.00	120	"	109.7	110		105.5		107		109.7		105.2		109		112.5		70.2	Temp
	.20	60	"	120	119	120.7	120	120.7	121.5	121	121.5	122	120.5	121	120.2	120	120	120.7	121	
	.40	100	"	119	117.7	119	119.5	120	120.2	120	120.7	121.5	119	120	119	119.5	119.5	119	119.5	
	2.00	120	"	117.5	116	117.7	117	117.5	119.7	119	119	120	117.7	118.5	118	117	117.5	117	116	
	2.00	120	"	108	110.5		109.5		109		110.2		105		109.5		114.2		77.5	Temp
	.20	140	"	116	114.5	116.2	116	117.7	116	118	118.5	119	116.5	117	117	115	117	116	116.5	
	.40	160	"	114.2	112.2	114.5	114.5	116	116	116.2	114.2	117.5	114.5	115.5	115	112.5	115	112.5	112.5	

DATE	TIME	MIN																									
4/11/19	3:00	100	40	112	104.7	112	113	[illegible]	114.2	114.5	115		115.7	113	103.7	112	103.7	114	113	113.7							
	3:00	100	"	115	112.2		112		112.5		110			117		109.5			117.5		79						Temp
	120	200	"	104	104.7	111	111	112	112	112	113		112.7	104.7	111	113	105.7	112	111	112							
	30	210	"	104	113	109.5	113.7							104.7	113	115	113.7										
	30½	210½	"		105																						145
	40	220	"	103	99	107	113.7	112.2	109	110.2	109.5		111	105	107	115.5	101	104	115.5	109							
	40	220	"														100										150.7
	50	230	"	110																							152.
	50	230	"	99	94.2	114	104	104	107	105.7	107		112	110	104	112	98.2	100	105	115.5							153.3
	55	235	"			100																					155.3
	55½	235½	"				100																				157.
	56	236	"											100		103											157.7
	56½	236½	"															50									159.3
	57	237	"																50	103							159.7
4:00	40	240	"	94	57	95	98	102.5	115	102	102		112.5	98	103	92.5	93			93.7							
4	40	240	"	112	104.2		111.5		117		114			117		112.5		✓	112.5		79						Temp
	40½	240½	"												100												161.
	45	245	"										100						✓								162.
	50	250	"			50	50	100		100																	162.7
	50½	250½	"								100									50							163.7
	50½	250½	"			✓	✓																				166.3
	55	255	"	107	50			100	93	93.5				93	92.2	93	92.5			✓							167.3
	55	255	"					50																			168.
	55	255	"						100																		169.3
	55	255	"					✓			50																172.
	60	260	"	50					94	92.5				107	50	97	88										173.3
	60	260	"							50																	175.3
	60½	260½	"						50																		182.3
	65	265	"											50		95	73.7										182.7
	65½	265½	"						✓							50											183.7
	70	270	"														61										
	70	270	"														50										189.3
	74	274	"	119	126.5		122		125.7		119			112		117.2			130		79						Temp

| DATE | TIME | | |

DATE	TIME	MIN	AMPS	424	428	469	643	646	482	466	467	468	398	478	479	480	773	774	775	TEMP. Rdg.	
4/11/63	3:24	120	40	1067	1077	1112	1112	1114	[illegible]	114	1114	1152	1115	1112	1117	1132	1132	1112	1113		
	3:00	180	"	1067	1111		1.022		1110		1067		1067		1.052			110		78.7	Temp.
	30	200	"	1.0485	1.02	1.077	110	1127	1.077	1112	1112	1127	1.077	1.085	1.08	1.025	1.07	1.085	1.07		
	35	210	"	1.022	1.00 / 1.085	1.077	1.082	1.100	1.06	1.085	1.097	1117	1.085	1.062	1.055	1.00 / 1.02	1.092	1.077	1.095		137.3
	35½	210½	"																		141.7
	36	216	"	1.00																	144.
	1/3	220	"	982	962	1.037	1.085	1.082	1.025	1.067	1.085	1.075	1.02	1.037	1.02	977	1.042	1.017 / 1.02	1.07		
	43½	223½	"														1.00				149.
	44	224	"			1.00															150.7
	44½	224½	"																		151.
	47	227	"																		151.3
	48½	228½	"																		152.3
	50	230	"	942	902	94	1.00	1.05	1.085	1.04	1.082	1.067	987	1.007	1.00 / 987	957	60 / 50	1.057	1.02		153.3
	53½	233½	"						1.00												155.
	53	233	"					1.00						1.00							155.3
	53½	233½	"															50			155.7
	54	234	"															✓	1.00		156.
	54½	234½	"																		157.
	57	237	"			50															158.
	59	239	"				50														159.3
	4:00	240	"	082	722			775	.94	100	1.00	1.00 / 922	942	985	957	94			50		160.
	4:00	240	"	1.09	1.147	1.162		1.174			1.102		1.12		1.11			1.272	79	78.7	Temp.
	03½	243½	"		50	✓		✓	50			50							✓		162.3
	04½	244½	"																		163.7
	1:0	250	"	745				✓	867	912	747 / 50		.90	745	.90	897					
	1/4	254	"											50							169.3
	1/2	255½	"																		169.7
	1/3	256	"	50																	170.
	6½	256½	"						50												171.
	20	260	"							625 / 50			797		802	832					
	21½	261½	"										50								174.3
	22½	262½	"																		178.3
	23	263	"											50							179.3
	30	270	"													637 / 50					
	30½	270½	"										✓								184.3

DATE	TIME		1165	1171	1164	1407	1428	1469	1612	1676	1482	1466	1467	1468	1578	1478	1477	1488	1773	1774	1775	TEMP IDLE	
6/1/09	Change		1.00	1.08				(31)		123		(133)		1.35	218		1.35			(31)			
	4:00	0	30	118	121			121.2		122		118			116.7		118			126.2		80	Temp
	5:00	60	"	116.7	119			114.7		116		112			111.7		113.5			118.2		80	
	6:00	120	"	116.2	117			107.7		113		109.7			108.2		107			116		80.7	
	7:00	180	"	107	113.2			105		110		103.7			106		104.5			113.2		81	
	8:00	240	"	106	108.7			104.2		107.2		103.25			102		102			110.7		79.2	
	9:00	300	"	103.2	105.7			102.7		104		102			100.7		102			107.2		78.5	
	10:00	360	"	101	106.2			101		106		100.2			101.7		100			109		77.2	
	11:00	420	"	102.5	105			101.7		105		101			102		100.5			100.5		77.7	
	12:00	480	"	177.7	175.7	172.5		176.2	175	171.5	179	177		177	176	172.2	175.7	173	175	172.2	177.7	TD READING	
6/2/09	Change																						
	A.M. 12:00	0	40	144	143	144	142.2	142	141	141.7	140.7			141.7	141.7	139	139	138	138.2	137.7	139		
	.04	4	"	133	132.5	133	133	132.5	132.5	133.3	132.5			132	132	133	133	132.7	133	133	132		
	.10	10	"	132.5	132.2	132.5	132.2	131	132.2	132	131			132.5	132.2	131	131	131	132.2	132.2	131		
	.20	20	"	128	128	128.7	128	129	128.2	129	129			128.5	127.7	128.5	128.2	128.5	128	127.7	131.2		
	.40	40	"	124.2	124	124.5	124.7	125.7	125	125.5	126			125.7	125.5	125.5	125	124.5	124.5	124	125		
	1.00	60	"	122	121	122.2	122	122.5	123.5	123	122			123.7	123	123	122.2	122	122.7	121.7	122.5		
	1.00	60	"	115	117		115.5		117		114.7				112.7		114.7			115		77.5	Temp
	.20	80	"	120	119	119.2	120	121.5	121.5	121.5	121.5			122.2	120.5	121	120.5	120	120.5	120	121		
	.40	100	"	118.2	117.5	118	117.5	120	120	120	120			121	119	120	119	119.2	119	118	119.5		
	2.00	120	"	117	115.2	117	116.5	118	118	119	119			120	117.5	118	117.7	118	117.7	116.2	117.7		
	2.00	120	"	106	108.5		108		109.7		110				104		106			113.5		77	Temp
	.20	140	"	115.5	117.7	116	117.5	117	116.2	117.7	115.7			116.2	116	116.5	116	116.2	116	115	116.2		
	.40	160	"	113.5	111	112.2	114	115.7	114.2	112.7	111.2			117	114.2	115	113.5	113	115	112.7	115		

DATE	TIME	MIN	HB	404	488	462	643	646	482	466	467	468	398	478	479	480	773	774	775	TEST HOLE
6/17/09	[illegible]	[illegible]	[illegible]	111	120.2	112.2	111.5	114	121.5	114.5	114.5	107	112.2	113	112.5	108	112.5	112.2	112.7	
	[illegible]	[illegible]	[illegible]	109.5	120.2		112.7		112.5		108		102.2		108			112.7		76.7 Temp
	19	19.0	[illegible]	109.5	120.2											106				
	23	[illegible]	[illegible]	112	121	112	112	112	112	112	112	112.7	113.5	112.5	112.5	112.7	111	109.7	111.7	
	32	21	[illegible]	109.7	121	112.7	112.5	112.5	112.7	112.2	112.2	112	112.5	112	112.2	112	109	112.7	112.2	140.
	36	21.0	[illegible]													100				144.
	41	22.5	[illegible]	100	96	112.5	112.5	112.5	112.5	108	108	112.2	112.7	112.5	112	99	112.5	112.7	112.2	146.7
	43	22.5	[illegible]														100	112.5		150
	47	22.7	[illegible]			100											100			153.3
	50	23.0	[illegible]	92.2	92.2	99	101	112.7	101	112.5	116	100	112.5	112	112.5	92.5	88	88.2	102	154.
	51	23.2	[illegible]				100		100				100		100					155.7
	52	23.2	[illegible]														50			156.
	53	23.3	[illegible]											100				50		156.3
	56	23.5	[illegible]							114							✓		102	158.3
	57	23.7	[illegible]			50														158.7
	4:00	23.7	[illegible]	91.5	81		50	100	96	101	102.2	100	96	92	92.5	93.7		76		160.
	4:02	[illegible]	[illegible]	112.5	112.5	✓	112.7		112.5		112.7		109.5		111		112.7		76.2	Temp
	02	23.7	[illegible]							100	108.5									161.7
	04	23.7	[illegible]				✓	50				50						✓	50	162.7
	07	23.7	[illegible]		50															165
	15	23.7	[illegible]	90				✓	96.2	97.2	96.2		91.5	93.7	91.7	92.2			✓	170.3
	17	23.7	[illegible]							50										
	19	23.7	[illegible]		50				50					50						171.
	22	23.7	[illegible]																	
	24	23.7	[illegible]							76			82.2		82	84				176.
	27	23.7	[illegible]					✓		50										
	32	23.7	[illegible]										82		82	79.2				180.
	37	23.7	[illegible]												80					180.7
	37	23.7	[illegible]													80				185.7
	42	23.7	[illegible]	116	119.5		120.5		122.5		117.5		112.7		112.7			126	76	Temp

Cells 460, 643, 646, 773, 774, 775 were removed from the test and connected up on testing board for over charge tests.

See results in individual record book 6 | 14 | 09

DATE	TIME	MIN	AMPS	404	488	482	466	467	468	398	478	479	480	Idle	
	AM			156	109	124	(134)	136	219		(136)				
6/12/57	4.55	0	30	119.2	122	122	115.2		113.5		113.		75.7		Temp
	5.55	60	"	114.	116.5	114.	110.5		109.5		111.		75		"
	6.55	120	"	111.	111.2	104.5	107.		106.		108.		75.7		"
	7.55	180	"	106.5	106.5	102.	102.		102.		104.		75.7		"
	8.55	240	"	101.	100.7	97.	97.5		98.		98.2		76.7		"
	9.55	300	"	97.5	96.7	93.	95.		95.		95.7		76.5		"
	10.55	360	"	96.	95.	93.	94.		94.2		94.2		78.		"
	11.55	420	"	96.7	96.	93.7	96.		95.2		95.5		79.5		"
	11.55	420	"	179.7	179.7	174.7	180.	179	178	178	178.2	177.7	176		C. W.

Stand idle 36 hours since day changed.

DATE	TIME	MIN	AMPS	404	488	482	466	467	468	398	478	479	480	Idle	
6/14	AM 12.00	0	40	122	122	122.2	122	122.5	122	122.5	122	122.2	122	78	Temp
	12.00	0		77.5	77.7	77.2		78		77.5		78			
	.04	4	"	122	122.5	122.5	122	122.5	122.5	122	122	122.5	122.5		
	.10	10	"	120.5	119.7	121	121.5	121	121	122	121.5	121	121		
	.20	20	"	119	117	117.7	120	120	120.5	120	120	119.5	119		
	.40	40	"	117.	115	116.2	116.5	117.2	119.5	117	117	117.7	117		
	1.00	60	"	115.7	114	115.5	117.7	117	116.5	116.2	117	116.2	116.5		
	1.00	60	"	88	88.5	87.7		89		87		88.5		78.2	Temp
	.20	80	"	114.5	113.2	116	116.5	116.5	118	116.5	116	116.5	114		
	.40	100	"	113.5	111	115	115.7	116	117	114	115	114.2	112		
	2.00	120	"	111.5	108	112	114.5	114.5	115.7	112	113	112			
	2.00	120	"	95	94	95.2		95.5		96		94.7		78.2	Temp
	.20	140	"	110	106	111.2	113.7	113.7	114.5	111	112	111.7	106		
	.30	150	"	109.5	104	110.5	113.7	113	112	110	111	110.5	104		
	.40	160	"	109.5	102	109.5	112	112	113	108.5	109.7	109.5	102		

DATE	TIME	MIN	AMP	404	482	477	466	467	468	398	479		479	480	Sdlc	
6/18/07	2:00	170	40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	112	107	108		107	100		1133
	3:00	135		103	[illegible]	103.5	[illegible]	[illegible]	[illegible]	105	106		105	97.5		
	3:35	135		103	99	100		100.2		100.5			99		77.7	Temp
		131		100	97.2	[illegible]	100.5	100.5		102	99.4		102	97.5		126.7
	4:00	127								99	99					131
	[illegible]	1:05		99	99.7	98	100	100.5	1.5	99			100	97.2		133.3
	1:30	6:15		99	95.5	97.5	[illegible]	[illegible]	95	95	95.5		95.7	89		140
	[illegible]	6:15		99	91	[illegible]	100	100.5	97.7	97.7	92.5		97.7	85.7		146.7
	1:45	2:45							50							150
	1:49	2:45			50											152.7
	1:55	2:45		95		91	94.2	95		96.4	91		96.5	80.2		
	2:00	2:45						50								157
	2:10	2:45		50												157.3
	2:50	2:45			50						50					158.3
	4:50	2:45				74				95			95.7	72		
	4:55	2:1		109.2	100.2	109.7			109.5	108			107		80	Temp
	5:00	2:1				50										163.3
	5:05	2:1								50						165.3
	10:00	2:1											60			166.3
	10:15	2:1												60.2 50		170
	10:30	2:1		111	108	110.7		110.7		110			109.7		78	Temp

Cells 551, 552, 568, 569 were connected in Endurance Section after this discharge for 16 mins.

DATE	TIME	MIN	HPS	404	488	551	556	412	406	467	464	348	477	479	470	569	561	1065	
6/14/09										(135)	137		(137)		(47)				
	4:00							1027		1027		1072	1102	79			76		Temp
								99.5		102.5		103	104.5	85.5			76		"
	6:00							92.5		99		100	102.5	87.2			75		"
	7:00							96.5		95		96.5	99	90			76		"
	8:00							95.5		94.5		96	95	92.5			76.5		"
	9:00							92.2		94		96	95	94			76.5		"
	10:00							94		95.5		96.5	95.2	96.5			77.5		"
	11:00							96		97.2		98	96	96.5			77		"
	12:00											105	102	102	104.2	103	104		P. D
				Discharge															
6/14/09	PM 12:00	0	40	144	143.2	145	144.2	144.2	143	142.5		143.2	141	141	140	140.2	141		
	04	4	"	132	132	132.5	132.2	132	132	132.2	132.5	134	132.2	132.2	132	132.5	132.2		
	10	10	"	130	129.2	130	129	129	130.5	130.2	130	131	130	130	130	130	130		
	20	20	"	122.2	122	122.5	122	122	122	122.2	122.2	122	122.5	122	122.2	122.2	122.2		
	40	40	"	124	123.2	124.2	123.2	123.2	125	124.2	125	124.2	124.2	124.2	123.2	124.2	124.5		
	1:00	60	"	121	120.2	122	122.5	121	121.2	122	122.2	121.2	121.2	121	120.2	122	122		
	1:00	60	"	103	104	106		99		103.5		102		103		102.5		805	Temp.
	1:30	90	"	118.5	118.2	120.2	120.2	120	120.5	120.5	121.2	117.5	120	119.2	119	120.2	120.2		
	1:00	100	"	117	116.5	118.5	118.2	118.2	118.5	118.5	120.5	117.2	118.5	118	117.2	118.5	117		
	2:00	120	"	116.2	116.2	117.5	117.5	117.2	118	118	118.5	116.5	117.5	117	116.5	118	118.2		
	2:00	120	"	106.5	106.5	107.2		106.2		106.2		104	106		106.2			812	Temp.
	3:00	140	"	115	115.2	117	116	116.5	117.2	117.2	118	115.5	116	115.5	115.2	117.5	116.5		
	4:00	160	"	112.5	112.5	114.5	114.5	112.5	114.5	114.5	116.5	113.2	114	113.5	113.5	114.5	115.5		

DATE	TIME	MIN	AMPS	404	488	551	552	432	466	467	468	398	478	479	480	568	569	TEMP Rolled
4/14/09	PM 3.00	180	40	.097	.077	.114	.112	.094	.134	.137	.147	.104	.112	.117	.147	.134	.114	
	3:00	180	"	.097	.111	.112		.067		.111		.068		.097		.111		.122
	10	190	"	.077	.047	.127	.111	.074	.112	.122	.137	.084	.094	.087	.104	.112	.127	
	20	200	"	.104	.103	.117	.084	.082	.067	.107	.122	.062	.074	.062	.102	.104	.117	
	28	208	"		.100										.100			
	29	209	"															
	30	210	"	.104	.092	.102	.077	.122	.182	.097	.102	.034	.047	.034	.077	.087	.110	
	37	217	"	.100														
	38	218	"					.120										
	40	220	"	.074	.094	.082	.064	.094	.047	.062	.084	.100	.017	.100	.074	.067	.108	
	46	226	"										.100					
	50	230	"	.074	.092	.062	.064	.094	.102	.103	.104	.094	.077	.096	.092	.034	.047	
	57	237	"				.100											
	58	238	"															
	59	239	"															
	60	240	"						.100		.100							
	57	237	"							.100								
	40 0	240	"	.062	.082	.104	.074	.094	.047	.074	.050	.092	.077	.097	.074	.037	.101	
	40 0	240	"	.113	.182	.117		.113		.137		.114		.113		.119	.100	.122
	00	240	"		.100													
	10	250	"			.100	.050						.050					
	11	251	"						.050						.050			
	14	254	"	.050				.050										
	15	255	"		.064				.137			.082		.079	.077		.084	
	18	258	"														.050	
	19	259	"					.050										
	20	260	"									.047		.064	.082			
	24	264	"			✓	✓	✓									✓	
	24	264	"										.050					
	30	270	"									✓			.097			
	38	278	"												.050			

Temp.

Temp.

DATE	TIME	MIN	AMPS	486	488	551	552	487	466	467	468	398	479	479	480	568	569	ITEMS Idle	
	Change			108	111	(98)	126	(130)	128		121	(138)		(98)					
6/14/09	4:45	0	30	192	202	133	111	132			117	123		127			83	Temp.	
	5:45	60	"	118.7	124	114.7	111.7	115			118	115.7		118.7			84		
	6:45	120	"	116	118.5	114.7	104.7	111.7			110.7	113		113			83.5		
	7:45	180	"	108.7	112.5	109.2	100	105			104.5	106.7		108.5			82.5		
	8:45	240	"	104	110.2	107.5	108	100			102.5	104.5		107			81.7		
	9:45	300	"	102.2	108	103	97.2	99.5			101.2	102		106.2			81.2		
	10:45	360	"	102	107.2	103	98	100			101.7	100.2		107.7			80.5		
	11:45	420	"	104	105.7	105	97	102.5			100.2	102.2		104.7			79.7		
	11:45	420	"	177.5	176.7	172.5	174	174	174.5	177.5	127	172.5	172	176	172.7	172	173	T.D.	
	9/7	Discharge																	
6/15/09	12:00	0	40	144	142.2	142.5	141	140	142	144.5	145	142	138.5	138.5	138	137	137		
	.04	1	"	133	133	132.2	132	132	133.5	132.5	133	135	133	133	133	132.2	132.2		
	.10	10	"	131	130.5	130	130	130	131.5	131	131	132.5	131	131	131	132.2	132.5		
	.20	20	"	128.2	128	127	127.7	127.7	129	128.5	128.2	129.7	128.5	128.2	128.2	128	128		
	.40	40	"	124.5	124	124.2	124	124	125.5	125.5	125.5	125.5	125	124.5	124.2	124	124.5		
	1.00	60	"	122	121	122.2	122	122	123	123.7		122.5	122.2	122	121.7	122.5	122		
	1.00	60	"	107	105.5	105.5		101		105.7		102.5		105.2		105		77.2	Temp.
	.20	80	"	120	119	120.5	120.2	120.2	121	121	122	120	120.5	120	119.7	121	121		
	.40	100	"	118.2	117.5	119.5	119	119.5	120	120.2	121	119	119.7	119	118	119.7	120		
	2.00	120	"	117	116	117	117.7	117	118.5	119	120	117	118	117.7	116.2	118.2	118.5		
	2.00	120	"	106.2	112.5	109.7		104.7		109.7		107.2		106.5		113.2		79.7	Temp
	.20	140	"	115	119.5	116	115.5	115	117	118	118.5	116	116.5	116	115	116.5	117		
	.40	160	"	113.5	111.7	114.5	114	113.7	116	116.2	117	114.7	114.2	114.2	112	115	115.5		

DATE	TIME	MIN	AMPS	404	488	551	552	492	466	467	468	398	478	479	480	568	569	TEMP. Pole	
6/15/09	1:00	1:00	4	111	109	112	112.2	111	114.5	115.	115.7	112	113	113	109	113	114		
	2:00	1:00	"	105.7	112.5	112		110.7		112.2		110.2		109		116.5		105	Temps
	1:10	2:10	"	106.2	105	110.5	110	109	112	113.	112.7	109	109	109	112.2	110.5	111.7		
	1:20	2:11	"	107.7	110.7	109	115	109	110	111	112	110.2	107	106.5	112	109.	110		
	1:35	2:15	"			106									110				
	1:37	2:17	"												110				
	1:40	2:20	"	108	97.5	107	106	101	107.7	109.	110	110	108	107	97.5	106.5	108.2		
	1:47	2:27	"					100											
	1:50	2:30	"	95.5	97	102	110.7	97	108	106	107	110	101	105	96.2	102	105		
	1:52	2:32	"				110						100						
	1:54	2:34	"													100			
	1:55	2:35	"			100													
	4:00	2:40	"	91.5	88	95	98	97.7	100.5	103	101	91.2	92.2	92.2	94.5	86	101		
	4:00	2:40	"	112	110.2	110.2		110		114		114		113		121	100	81	Temp
	1:02	2:42	"						100										
	1:03	2:43	"							100						50			
	1:07	2:47	"								50								
	1:09	2:49	"		50		50												
	1:10	2:50	"	62		50		87	95.5	91.5		92	85	92	92	✓	70.5		
	1:13	2:53	"														50		
	1:14	2:54	"			✓	✓						50						
	1:17	2:57	"	50						50							✓		
	1:19	2:59	"					50											
	1:20	3:00	"						75.5			53		62.5	87				
	1:24	3:04	"						50										
	1:30	3:10	"									50		53	75				
	1:31	3:11	"											50					
	1:40	3:20	"												57.7				
	1:42	3:22	"												50				
			"	120.	126.5	124.5		117.5		126.7		120		119.2		127		115	Temp
												✓							

143.3
145.
146.7
151.3
153.3
154.
156.3
157.
159.3
160.
161.3
164.7
166.
166.7
169.7
170.3
171.7
172.7
176.
180.
180.7
188.

DATE	TIME	MIN	AMPS	464	484	551	552	482	466	467	468	478	479	480	568	529	TEMP Rodec	
6/15/09	Charge			129	112	(119)		127	(127)	125		122	(122)		(119)			
	4.55	0	30	121.7	126	120.5		115		125.5		119	122.5		124		81.5	Temp
	5.55	60	"	121	123	119.2		110		117.5		115	118.5		118.5		82	"
	6.55	120	"	114.5	117	113.5		103		113		109.5	111.5		113		82	"
	7.55	180	"	110.5	115	109.2		102		108.5		107	106		112		81.7	"
	8.55	240	"	107	115	102.5		99.2		105.7		105	104.5		109.5		81	"
	9.55	300	"	105.5	109	100.7		99		102		102	103		103		80	"
	10.55	360	"	103	107	100		99		102		102	101.5		102.5		80.2	"
	11.55	420	"	103	107	100		99		102		102	102		103			"
	11.55	420	"	127	123	120	119	121	121	122		125	127.2	127.2	123	122.5	79	C. D
	PM			Discharge														
6/15/09	12.00	0	40	134	133	133	133	133	133	132		140	140	140	139	139	129	
	06	6	"	133	133	133	133	133	132.5	132.5		134	133	133	133	132	132	
	10	10	"	132	132	132	131	131	132	132	132.5	133	132	132	132	132.5	132	
	20	20	"	129.5	129	129	129	129	129.5	129.5	129	129.5	129.5	129	129	129	129	
	40	40	"	129.5	129	129.5	129.5	129	129.5	129.5	129.5	129.5	129.5	129.5	129.5	129.5	129.5	
	1.00	60	"	129	129	129.5	129.5	129	129	129.5	129.5	129.5	129	129.5	129.5	129.5	129.5	
	20	80	"	127	127.5	127	127.5	127.5	127	127.5	127	127	127.5	127	127.5	127.5	127	Temp
	40	100	"	124	124.5	124.5	124	124.5	124	124	124.5	124.5	124.5	124.5	124	124	124.5	
	2.00	120	"	117	117.5	117.5	117	117.5	117	117.5	117.5	117	117	117	117.5	117	117.5	
	20	140	"	109	113.5	112		106.5		108.5		108		108.5		112	81	Temp
	40	160	"	116	114.5	116	116	116	117	117	116.5	116	116	116	114.5	116	116.5	
	40	160	"	120.5	115	117.5	114	120.5	116	116.5	117.5	114	117.5	114.5	117	117.5	114	

DATE	TIME	MIN	AMPS	404	488	551	552	482	466	447	468	398	478	479	480	568	569	TEMP Rec	
6/15/07	2:17																		
	3:00	180	40	110	1082	1122	1117	1102	1142	1146	1152	1112	1115	1115	1107	1112	1113		
	3:00	180	"	117	116	116		109		1122		1114		1121		1112		82	Temp.
	120	200	"	1102	1104	1110	1095	1062	1117	1122	1125	1077	1077	1071	1103	1092	1102		
	130	210	"	1030	1042	1108	1074	1020	1097	1105	1117	1052	1052	1052	1007	1075	1085		141
	132½	212			100										100				141.3
	140	220	"	100	97	1047	1000	1007	1077	109	110	1024	1027	1022	985	1042	1067		146.7
	141½	221½	"					100											149.7
	147	227	"											100					151.3
	147½	227½	"									100			100				151.7
	148	228	"										100						152.
	148½	228½	"			100													153.
	150	230	"	984	984	98	100	974	104	106	1082	987	97	982	962	985	102		153.3
	154	234	"														100		156.
	157½	237½	"								100					50			158.3
	160	240	"	90	747	62	665	934	100	1045	842	987	974	985	942		74		160
	160	240	"	1062	1242	1247		113		119		117		1175		1277		83	Temp
	162	242	"			50				100									161.3
	164½	244½	"				50				50						50		163.
	165½	245½	"		50											1			163.7
	170	250	"	72		1		847	905	81		90	717	902	907		1		166.7
	173½	253½	"	50			1												169.
	176½	256½	"					50		50			50						169.3
	180	260	"						50		1								171.
	186	266	"									72		715	922				173.3
	187½	267½	"									50		50					177.3
	190	270	"						1	1					685				178.3
	197	277	"									1			50				184.7

DATE	TIME	MIN	404	488	482	482	482	466	467	468	398	478	479	480	468	469	TEMP. HPLE
6/15/09	P.M. Discharge		160	113	(50)	128		(38)	110		123	170		(50)			
	4:45	0	130	120	129	129	119		120		124.5	129		126			82 TEMP
	5:45	60		121.5	120	120.2	114		117.4		120	120		121.5			83.7
	6:45	120		116.5	112	116	110		113		115	114.7		117.7			83.5
	7:45	180		113	118	113	107		110		111.2	111.2		115			83
	8:45	240		110.2	115	110.7	105		108		108.5	108.5		113			83
	9:45	300		109	112.2	109	103.2		106		106.2	106.2		110			82
	10:45	360		106.5	110.7	108	102		105		105	105		110			81
	11:45	420		136	109.5	107	101.5		104.7		104	104		109			80.5
	11:45	420		177.5	175	172.5	174	172.5	174	172.2	172.5	177	171	175	173	171.5	172.2	P.D.
6/16/09	P.M. Discharge																
	12:00	0	140	147	142.2	141	141	140	142	142	142.5	139.5	132.5	142.2	137	137.5	
	.04	4	"	133	132.2	132	131.5	132.7	132	133	132.5	134.5	133	132.5	132	132	132
	.10	10	"	131	130.5	130	130	131.2	131.5	131	131	132.5	131	131.5	131.2	132.2	
	12:20	20	"	127	128	127.7	127.5	127.7	129	127.5	128.2	130	128.5	128.2	128.2	128	128
	.40	40	"	124.5	124	124.2	124	124.2	125.7	125	125.7	125.5	125	124.5	125	125	125
	1:00	60	"	122	121	122	122	122	123	123	123.7	122.5	122.2	122	121.7	122.2	123
	1:00	60	"	119.5	115	122		123.5		107		106.5		107		111.7	80 Temp
	120	60	"	119.7	119	120	120	120.2	121	121	122	120.2	122.2	120	119.7	120.2	121
	140	100	"	118.2	117.5	119	119	119.5	121	121	121	119	119.7	119	118	119	119.7
	2:00	120	"	117	116	117.7	117.5	118	119	119	120	117.7	118	117.7	116.2	118	118.2
	2:00	120	"	107.5	113.5	112.2		104.7		104.5		107.5		107.7		114.7	79.7 Temp
	120	140	"	115.5	119	116	115.7	116	117.7	117.7	116.2	116	116.2	116	114	116	116.5
	140	160	"	113.5	117	114	112.7	113	114	114	114	114.2	114.2	114	112	114	114.5

DATE	TIME	M111	M112	M04	M08	S51	S52	M42	M46	M47	M67	398	478	479	410	506	509	1362	
4/12/61	2:00	100	40	112.2	109	112	111.5	110	114.2	114.7	105.5	112	111.7	112	107.5	112	113		
	3:00	100	"	105.2	112.5	112.5		105.2		109		105.5		110		116.2		79.5	Temp
	.20	210	"	105.5	114.2	109	105.2	110	112	111.7	112	105	112.2	107	103	109	105.5		
	.30	210	"	104	105.7	107.7	112.5	104	112.2	110	112	106	105	106	101	116.5	109		
	.35	210	"		100										100				145.7
	.40	210	"	100	97	104	103	100.5	104	105	110	113	112	113	97.5	112	110		146.7
	.45	210	"				100	110								100			149.7
	.50	210	"																151.7
	.55	210	"			100													152.
	1:00	210	"									100	100	100					152.7
	.20	210	"	76	92	93.7	95.5	97.5	105	105	102	97.2	99	99.7	96.2	96.2	111.7		
	.40	210	"													50	100		156.
	.50	210	"			50													158.
	.55	210	"								100								158.3
	4:00	210	"	89	75.7		50	92	100	100	88	95	93	95	92.5		74.2		160.
	4:05	210	"	110	117	121.5		117.5		112		111		112		112.5	50	78.7	Temp
	.35	210	"				✓				50								162.3
	.40	210	"			✓					50								164.3
	.45	210	"		50											✓	✓		165.
	.50	210	"	72				82	92	73.5	✓	83.5	74.2	83.7	83.5				
	.55	210	"							50			50						167.3
	5:00	210	"																169.3
	.05	210	"	50															171.
	.10	210	"					50		✓									172.7
	.15	210	"						47.7			105	79	83					
	.20	210	"						50										176
	.25	210	"									50							177.3
	.30	210	"					✓					50.5	70.2					
	.35	210	"										50						180.3
	.38	210	"												50				185.7
	.39	210	"	114.2	122	122		112		119.2		114.7		117		122		78	Temp

| DATE | TIME | MIN | [illegible] | [illegible] | [illegible]

DATE	TIME	MIN.	AMB	104	488	481	482	482	466	467	468	398	478	477	480	468	467	TEMP IDLE
	PM.																	
6/16/09	3:00	1:00	40	110	108	112	114	110	112	114	112	112	107	112	104	115	112	
	2:00	1:00	"	108	113	112		111		108		109		109		114		80.2 Temp.
	30	200	"	102	102	102	108	104	112	112		107	106	106	102	108	105	
	27	207	"												1.00			-138
	28½	208½	"		100													-137
	30	210	"	102	99	102	102	102	102	102	112	104	102	104	99.2	104	104	
	30½	210½	"	1.00														-143.7
	39	219	"					100										-146
	40	220	"	98	94	104	102	99	104	104	102	100	100	100	96.7	102	104	
	43	223	"									1.00				1.00		-144.7
	45	225	"			1.00	1.00											-145.7
	48	228	"															-145.7
	50	230	"	93	89	88	91	94	102	103	104	96	94	96	94	97	100	
	53½	233½	"													1.00		-142.3
	55	235	"							1.00	1.00							-142.7
	57½	237½	"															-143.7
	58	238	"			50	50		100									-143.7
	59½	239½	"															-143.7
4:00	2:00		"	102	67			92	98	96	92	92	87	92	94		50	
1:00	2:00		"	122	102	102	7	110		112	50	113		115		112	7	81 Temp.
	03½	213½	"			50												-164.7
	04	214	"												7			-162.7
1:00	3:00		"	64				76	82	75	7	88	82	88	84			
	11½	201½	"	50									50					-166.7
	13½	213½	"					50										-167.7
	18½	218½	"						50		7							-168.7
	21	221	"															-172.3
	23½	223½	"							7								
	24	224	"									67		67	77			-175.7
	30	230	"									50		50				-176
	33½	233½	"												77			
															50			-181.7

DATE	TIME	MIN	AMB	404	488	447	462	466	467	468	398	478	479	480	468	469	TEMP IDLE
6/16/09	P.M.	Discharge		162	145	(132)	130		140	142	125		(142)		(132)		
	6:55	0	30	117	124	122	113		118		117		122		122		81 Temp.
	6:55	60	"	117	122	116	102		122		114		117		117		80 "
	6:55	120	"	116	116	110	103		106		102		107		112		80 "
	7:55	180	"	117	122	122	100		103		104		105		109		79 "
	8:55	240	"	117	122	105	98.7		102		102		103		102		79 "
	9:55	300	"	103	107	107	98		101		102		102		102		79 "
	10:55	360	"	102	106	103	97.5		101		101.2		101		105.7		78.7 "
	11:55	420	"	102	105.5	103	97.5		101.5		101		101		105.7		78 "
	12:55	420	"	102.5	107	103.5	97.5		102.5		102		102		102.2		79 T.D.
6/17/09	A.M.	Discharge															
	2:00	0	70	124	143	142.5	124.5	124	143	142	142.2	129	129	128.2	132.5	132.5	
	.04	4	"	133	132.5	132.5	132.5	132.5	133.5	133	132.5	133	132	133	132.2	132.2	
	.10	10	"	131	130.5	132.2	131	131.5	131	131	132.2	131	131	131	132.5	132	
	.20	20	"	127	127	127	127.5	127	129	127.5	131	129	129.2	129.2	129	129	
	.40	40	"	124.5	124	124.2	124	124.5	125.5	125	125.5	125	124.5	124.2	125	125	
	1.00	60	"	122.5	121	122	122	122	123	123	122.2	122	122	122	122.2	122.5	
	1.00	60	"	124	124	126		120.2		124	125		124		124.5		77.2 Temp
	.20	80	"	117.5	118.5	120.2	120	120.5	121	121	120.2	120	120	119.5	121	121	
	.40	100	"	116.2	117	119	119	119.5	120	120	119	119.5	119	118	119.5	120	
	2.00	120	"	117	116	117.5	117.5	118	119	120	117	118	118	118.2	118	118.5	
	2.00	120	"	104.5	105.5	108		105.5		105.5	105		106		111		77 Temp
	.25	145	"	115.5	114	115	116	116	117	118	111	112.5	116	112.5	116	117	
	.40	160	"	113	116.5	114	113.5	113.5	116	116	114.2	114.2	114.2	111	114.2	115.5	

DATE	TIME	M	[illegible]	[illegible]	400	425	521	572	482	446	447	467	498	472	479	400	505	569	102	
4/3/59	AM 3.00	150	40	110.5	109	112	111.5	113.5	114.5	114.5	115.5		112	112	112	107	112	113		
	3.10	150	"	105	111	113		102.2		106			105.7		105		113		72.2	Temp
	113	193	"		107											105				
	.27	209	"	106	108	109	110.2	108	112	112	112		112.8	112	112	112.2	112.5	113		
	.30	210	"	105.7	101	107.7	106.5	104	110.2	110.2	112		106	105.2	106	106.5	107	109		
	.33	212	"													100				-140.7
	.35	212	"		100															-143.3
	.42	222	"	100	97	105	104	105.5	106	105.2	110		103	102.2	103	97.2	104	107		-146.7
	.46	222	"					100												-150
	.47	221 1/4	"			100											100			-152.3
	.49	220	"				100							100						-155.7
	.50	220	"	96	92.2	98	99	98	105	105.7	107.5		110	99	100	96	98	113		-158.3
	.57	220	"															100		
	.58	220	"														50			-162.7
	4.00	220	"	90.2	84.2	97	92.7	93.7	101.5	101	100		95	94	95.7	94	103.5			-165.3
	4.09	220	"	104	114	112		104.7	100	102.2			104		102.2		102.5		75.7	Temp
	.12	219	"			50				100										-167.5
	.15	219	"				50										✓	50		-168.3
	.17	219 1/4	"								50									-165
	.19	219	"		50	✓	✓											✓		-166
	.21	220	"	76				85.7	93	83			91	90	90	89.7				-170.7
	.23	220	"							50										
	.25	220 1/4	"		50							✓								-171
	.27	220	"											50						-173.3
	.29	220	"					50	77				61		82	84				-175.3
	.31	220 1/4	"						50											-176.3
	.33	220	"										50		50	69				-180
	.35	220 1/4	"													50				-186.3
	.37	220 1/4	"	113.2	112.2	120		111	✓	115			112.5		113.7		121			
										✓										

DATE	TIME	MIN	AMB	447	448	551	552	48	46	467	468	371	472	473	475	568	569	1000	
6/17/09	Charge			163	161	(53)		131	(40)		143	122		(43)		(53)			
	4:55	0	30	114	1205	1185		119.5		1052		112.5		114		119.5		75.2	Temp
	5:55	60	"	1135	1185	1172		1125		1077		112		112		114.2		74.7	"
	6:55	120	"	113	1125	106		110		1035		109.7		105		1052		72.5	"
	7:55	180	"	1035	1075	102		105		99		100		1005		105		72.7	"
	8:55	240	"	99	104	97		92		955		92		96.5		1015		72.5	"
	9:55	300	"	97	101	96.5		91		94		90		95		100		73	"
	10:55	360	"	96	100	96		90.5		94		94		90.5		95.5		74.5	"
	11:55	420	"	97.5	101	98.7		92.5				95.5		95.5		99.7		75.5	"
	12:55	480	"	1.90	1.782	1.75	1.767	1.76	1.81	1.792	1.787	1.787	1.773	1.775	1.75	1.73	1.75		P.D.
				Discharge															
6/17/09	00																		
	12:00	0	40	1.947	1.935	1.93	1.93	1.932	1.941	1.94	1.939	1.947	1.93	1.92	1.907	1.907	1.90		
	04	4	"	1.93	1.93	1.927	1.92	1.92	1.937	1.93	1.92	1.937	1.932	1.93	1.93	1.932	1.932		
	10	10	"	1.302	1.302	1.302	1.297	1.31	1.307		1.303	1.31	1.307	1.301	1.301	1.31	1.307		
	20	20	"	1.25	1.255	1.26	1.272	1.27	1.29	1.255	1.259	1.292	1.257	1.25	1.28	1.28	1.28		
	40	40	"	1.24	1.255	1.243	1.27	1.24	1.25	1.242	1.24	1.251	1.247	1.24	1.24	1.24	1.242		
	1:00	60	"	1.215	1.207	1.22	1.23	1.217	1.2205	1.222	1.232	1.232	1.217	1.215	1.21	1.22	1.222		
	1:00	60	"	1.007	1.04	1.027		96		992		99		100		1.005		77	Temp.
	120	80	"	1.195	1.185	1.205	1.205	120	1.207	1.207	1.217	120	120	1.195	1.187	1.205	1.205		
	140	100	"	118	1.167	1.152	119	119	1.192	1.193	1.187	1.182	119	1.185	1.175	1.195	1.195		
	200	120	"	1.165	1.152	1.177	1.175	1.177	1.182	1.185	1.177	117	1.177	117	1.152	1.175	118		
	200	120	"	1.022	1.015	106		99.7		102		102		100		106		77.7	
	2:30	148	"	1.145	1.157	1.157	1.165	1.165	1.167	117	1.177	1.152	1.157	1.152	1.175	1.157	112		
	140	160	"	1.136	1.115	1.142	114	1.137	114	116	117	114	1.142	114	116	1.132	116		

DATE	TIME	MIN	AMT	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	TEMP. INDLE	
	TIME																										
6/19/09	2:00	1/0	1/0	110	108	112	117	110	114	113	115		113	112	112	106	113	123									
	3:00	1/0	"	104	105	103	/	101		104			104		105		102		103	Temp.							
	1:10	1/0	"	103	104	111	116	118	117	113	114		110	110	109	104	102	112									
	22	2/02	"	106	103	109	102	102	110	111	112		103	102	102	101 100	102	110								137.3	
	26	2/04	"																							139.	
	28	2/06	"		100																						
	31	2/10	"	103	102	102	106	103	103	103	113		109	103	105	95	102	101								140.	
	34	2/14	"	100																						144.3	
	39	2/17	"					100																		146.	
	41	2/21	"	98	97	100	103	99	102	102	109		101	100	100	97	103	107								147.3	
	44	2/24	"												100											148.3	
	46	2/26	"										100													149.7	
	48	2/28	"				100										100									151.	
	49	2/29	"			100																				151.3	
	50	2/30	"	94	91	95	92	96	103	104	103		98	97	99	96	95	102								152.7	
	53	2/33	"															100								153.3	
	57	2/37	"						100																	155.3	
	58	2/38	"							100																158.	
	59	2/39	"								100															158.7	
																										159.	
	4:00	2/40	"	89	81	70	76.7	92	99.5	97	92		94.5	92.2	94.2	93.7	129	80								160	
	4:00	2/40	"	107	107.7	106		105		108			108		110		121.2		79	Temp.							
	02	2/42	"			150																				161.3	
	03	2/43	"				50																			162.	
	05	2/45	"														50									163.3	
	06	2/46	"								50															164.	
	07	2/47	"		50																					165.	
	10	2/50	"	71				82	90	73			89	72.2	89	90										169.3	
	14	2/54	"	50						50																169.7	
	15	2/55	"											.01												170.7	
	17	2/57	"					50																		171.	
	20	2/60	"						101				.75		75	81.2										174	
	21	2/61	"						50																		
	25	2/65	"										.56													177.3	
	27	2/67	"												50											178	
	30	2/70	"													.637											
	35	2/75	"													50										183.3	

DATE	TIME	MIN.	A	B	404	488	1002	482	466	467	468	398	478	479	480	568	569	TEMP. IDLE	
6/27/09	Change		164	117	(54)		132	(142)	144			(237)	(144)		(54)				
	AM. 45	0	114	119	119		108		122			112	147		120		79	Temp	
	45	60	114	119	112		107		107			112	112		114		77.7	"	
	6.45	120	102	114	102		102		105.2			107	107		111.2		80	"	
	7.45	180	107	111.7	107		99.7		103			104	105		109.2		80.7	"	
	8.45	240	104	108	105		97.5		100			101	102		107		80	"	
	9.45	300	102	107	102		96.7		100			100.2	101		106.2		80	"	
	10.45	360	104	105.2	105		97.7		99			99	100		105.2		80	"	
	11.45	420	101	112	112		95.5		99			97.7	99.5		104		79	"	
	11.45	420	117.7	117.7	114	117.7	117.7	118.2	117.7	117.5		117.5	117.7	117.7	117.7	117.7	117.7	TD.	
6/28/09	PM.																		
	12.00	0	144	147	147	147	147	147.5	147			147	137.7	137.7	137.7	137.7	137.7		
	.04	4	132.2	132	132	131.5	131.5	133	132.5	132.5		134	132.2	132.2	132.2	132	132		
	.10	10	130.5	130.2	130	131	131	131	131			132.2	131	130.7	131	130.5	130.5		
	.20	20	127	127.7	127.7	127	127	127.5	127	127		129.5	127	127	127.7	127	127		
	.40	40	124	123.2	124.2	124	124	125	125	125		125	127.5	126.5	124	127.5	127.5		
	1.00	60	121.7	121	122	122	122	122	122.5	122.5		122.2	121	121.7	121.7	122.2	122.5		
	1.00	60	119	117.7	116		100		102			122.5	102.7		104		79	Temp	
	.20	80	120	119	120.5	121.5	120.5	121	121	122		120.2	120.5	120.2	119.7	121	121		
	.40	100	118.5	117.7	119.7	119.5	119.2	120	120	121		119	119.7	119	119	119.7	120		
	2.00	120	117.5	116.2	117	118	118.2	119	119	120		119	119.5	118	118.2	118	118.5		
	2.00	120	105	119	109		102		105.5			104.7		106		111.2	79	Temp	
	.20	140	115	114.5	115.2	116	116.5	115	118	119		114.2	117	116.5	114.2	116.2	117		
	.40	160	114	112.2	114.5	114	114.2	116.2	116.2	117.2		115	115	114.5	111	114.5	115.5		

DATE	TIME	MIN	IMP	424	426	428	432	442	444	447	445	454	472	479	480	562	569	1066	
3/12/09	AM 2:00	100	40	111	109	112	112	111	114.5	114.5	115.7	112.2	102	112	102.7	112	113		
	3:00	100	"	107	112	112		104.5		112.2		107.5		102.7		114.2		76.7	Temp
	:20	200	"	102.7	112	111	109	105	112.2	112	112	102.7	109	109	102.7	102.7	111		
	:30	200	"	105	112.2	112.2	102.7	102.7	105	111	112.2	102.7	102.5	107	102.7	102.7	112.5		
	:35	200	"				100								100				-143.3
	:50	200	"																145.3
	:4	200	"	101	99.5	105.7	105	102.5	105	104.5	102.7	104	102.5	102.7	97	102.5	107		-151.3
	:47	227	"	100															
	:49	227	"						100						100				-153.3
	1:0	227	"	96.5	97.7	100	100	99	102.5	105	102.7	101	100	100	97.2	99.5	102.7		-155.3
	:54	227	"									100							-156
	:57	227	"														100		-158
	1:51	227	"													50			-159.3
	2:0	227	"	92	87	77	85	95.7	102	102.2	102	95.5	94.2	97	99.2		99		
	4:0	227	"	110	115.5	117		104		114.7		110.7		112		115.7		76.5	Temp
	:03	243	"								100								-162.3
	:04	243	"			50			100	102									-164
	:05	243	"				50									✓			
	:07	247	"														50		-164.7
	:08	247	"								50								-165.7
	:10	247	"	82	55	✓	✓	90	94	94.7		93	88	92.5	94.5		✓		-167.3
	:11	247	"		50														
	1:12	247	"	50						50									-172.3
	:14	247	"										50						-172.7
	:21	247	"					61	84.7			84.5		85.7	86.2				-174.3
	:22	247	"					50			✓								-177.7
	:26	247	"						50										
	:30	247	"									54.2		59	72				-180.7
	:31	247	"									50							-181.7
	:32	247	"											50					
	:40	247	"												50				-186.7
	:40	247	"	.117	122.5	123.5		114.5		114.5		116.5		119		124.5		76.5	Temp
										✓									

DATE	TIME	MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				125	114	(55)	133	(143)	145		228		(145)		(55)					
6/10/09	[illegible]	[illegible]																		
	4:45	0	20	117	124	122		119.5			118		120		123				74	
	5:45	60	"	112.5	121.5	119.5		119.5			114		117		116				77.5	
	6:45	120	"	109.5	115	109		106.5			108		108		111				77	
	7:45	180	"	105	111	105		102			103.5		104		107.5				76	
	8:55	240	"	101	101	101.5		99.5			100		99.5		101				75	
	9:55	300	"	99	104	99.5		99			97		97		101.5				74	
	10:55	360	"	97	101	98		97			95		95		100				73.5	
	11:55	420	"	97	100.5	97		97			94.5		94		99				73.2	
	11:55	420	"	137	137	134.5	132	134	137	136	137		135	137.5	135	132	135	137.4		
6/8/09	9:59 1200	0	40	144	142.5	143	141	142	140	140	140		141	139.5	138	137.5	137	137		
	59	4	"	133	133	132	132	132.5	133.5	133	133.5		135	133	133	133	133.5	133		
	10	10	"	130.5	130.5	130	130	130	130.5	130.5	130.5		132	130.5	130.5	130.5	130.5	130		
	21	21	"	127.5	127.5	127.5	127	127	127.5	127.5	127.5		129	127.5	127.5	127.5	127.5	127.5		
	40	40	"	124.5	124	124.5	124	124.5	124.5	124.5	125		125	124.5	124.5	124	124	124.5		
	1:00	60	"	121	120.5	122	122	122	122.5	122.5	122.5		122.5	122	121.5	121	122	122.5		
	1:00	60	"	100	104	101		96		96.5			98		103		104		73.5	Temp.
	1:30	90	"	118.5	118	120	120	120	120.5	121.5	121.5		119.5	120	119.5	118.5	120.5	120.5		
	40	100	"	117.5	116.5	118.5	118.5	118.5	119.5	118.5	120.5		117	118.5	118	116.5	118.5	119		
	3:00	120	"	116	115.5	117	117	117.5	118	118.5	119.5		116.5	117.5	116.5	114	116.5	117.5		
	3:00	120	"	102.5	107	105		99.5		100.5			101		101.5		102		73.5	Temp
	20	140	"	114.5	113.5	116	116.5	115.5	117.5	117	118.5		116.5	116	115.5	113.5	115.5	116.5		
	40	160	"	112	110	114	115.5	112	116.5	116.5	117.5		113	112.5	112.5	109.5	113	114		

DATE	TIME	MIN	MITE	404	488	480	482	482	466	467	468	378	478	479	480	468	467	TEMP IDLE
6/18/09	P.M. 3.00	/10	1/0	1002	106	111	1001	102	113	113	115	107	102	109	1027	110	1115	
	3.00	/10	"	1057	1027	105		1002		105		105		105	100	1055		Lamp
	.12½	192½	*															128.3
	.17½	197½	"		100													131.7
	20	200	"	1027	997	108	1072	103	1032	110	112	104	1032	103	99	106	108	
	.22½	202½	"	100									100					137.
	.27	207	"					100										138
	.37½	207½	"											100				138.2
	.28½	208½	"									1003						139.
	.29½	209½	"									999	997	993	96	103	105	139.7
	.30	210	"	99	96	105	104	997	107	108	113					100		
	.37	217	"				100											144.7
	.39	219	"															146.
	.40	220	"	942	92	100	997	96	1037	105	108	97	96	947	94	96	1022	
	44½	224½															100	146.7
	48	228	"					100										149.7
																		152.
	50	220	"	96	86	24	80	82	997	101	101	937	92	92	93	50	937	
	50	221	"			50				100	100							153.3
	52½	222½	"				50											156.
	55½	225½	"															157.
	58½	228½	"														50	157.7
	400	240	"	997	50		✓	86	92	89	50							159.
												88	82	87	86			160.
	400	240	"	114	120	/20		/08		/10		/10		/10		/21		747 Lamp
	.02	242	"										100					164.7
	.04½	244½	"	100						100								164.3
	.07½	247½	"													✓	✓	164.7
	.08½	248	"			✓		50										165.3
	12	252	"						60			81		68	76			
	.12½	252½	"						50									168.3
	16	256	"											50				170.7
	.16½	256½	"									50						171.
	20	260	"												41			
															50			176.
	24	264	"															

DATE	TIME	MIN	AMB	404	481	482	482	466	467	468	398	478	477	480	468	469	TEMP IDLE	
6/18/09	Charge			166	119	(46)	134	(144)	146		229		(146)			(56)		
	4:45	0	30	122	117	124	107		117		107		105		114		75	Temp.
	5:45	60	"	113	112	111	107		124		110		107		111		75	"
	6:45	120	"	108	114	108	122		104		104		106		108		76	"
	7:45	180	"	102	110	104	99		102		102		103		106		76	"
	8:45	240	"	102	107	102	97		99		100		100		104		75	"
	9:45	300	"	100	104	100	94		97		98		98		103		75	"
	10:45	360	"	98	102	99	93		96		97		97		101		74	"
	11:45	420	"	94	101.5	96.5	92.5		94.5		96.5		96.5		101		73	"
	12:45	420	"	110	112	115	112.5	115.5	111	114	114	113	112	112	112	112	125	TOD.
6/19/09	AM.	Discharge																
	12:00	0	0	144	145	142.5	141	140.2	143	142	142	129	129	131	127.7	127.7		
	:15	15	"	133	132.5	132.2	132	132	133.5	133	135	133	133	133	132.5	132.2		
	:30	30	"	130.5	130.2	130.2	129.7	129.7	131	131	132.5	132	130.5	130.5	130.5	130.2		
	:45	45	"	127	127.7	127	127	127	128.2	128	128	129	127	127	127	127		
	1:00	60	"	124	127	124.5	124	124	125	125	125	125	124.2	124	124.5	124.5		
	1:15	75	"	121.7	121	122.2	122	122	122.5	122.5	123.5	122	122	122.5	122.5	122.5		
	1:30	90	"	120	120.5	120.5		95		95.5		94	95.5		103.5		127	Temp.
	1:45	105	"	120	119	121	120.2	120.2	121	121	122.2	120	120.2	120	119	121	121	
	2:00	120	"	117	117	119	119	119.5	119.5	120	120.5	118.2	119	118.2	117	119.7	120	
	2:15	135	"	117	115.7	117.7	117.7	117	118.5	119	120	117	117	117	115.7	118.5	118.2	
	2:30	150	"	110	109.5	103		95.7		96.7		96.2		99		105		72 Temp
	2:45	165	"	115.5	114	116	116	115.5	117.5	117.7	118.2	115.7	116	116	117	116	117	
	3:00	180	"	113	111	114	113.7	113.2	115.7	116	117.5	113.7	114	114	115.7	114	115	

DATE	TIME																									
6/9/22	2:00	110	40	110.2	108	112	110.7	109	114	110.2	115		111	111	111	105.7	112	113								
	3:00	121	"	101	105.5	104.5		97		100			100		100		105.7		71.5	Temp						
	.10	138	"		105.5											113										
	.20	2:05	"	102.2	113	109	102.5	114	111	110.7	113		107	110.2	107	100.5	107.2	111								
	.25	2:15	"													100										
	.29	2:19	"		100															136.7						
	2:30	2:30	"	103	97	107	102.5	111	109	110	111		108.2	103	104	98.5	106	108		139.3						
	.34	2:34	"					100																		
	.39	2:39	"	100																142.7						
	3:00	3:00	"	98.5	94.5	110	102.7	97	102	102.5	108		102.2	100	100	96	102.2	102.5		146.						
	.05	3:05	"										100							146.7						
	.10	3:10	"														100			149.						
	.14	3:14	"																	151.						
	.19	3:19	"					100												152.						
	.23	3:23	"	94.5	94.5	99	100	95.5	103	105	111.2		97	96	97	94	95	102.2		153.3						
	.29	3:29	"															100		156.3						
	.37	3:37	"						100											158.3						
	.39	3:39	"								100						50			159.3						
	4:00	4:00	"	88.7	86.	88.	95.7	89	96.2	100	95		94	95.5	93	95.5		79.		160.						
	.03	4:03	"																							
	4:30	4:30	"	102.5	108.2	109		103		102.7			102.5		102.5		100.5		71	Temp						
	.33	4:33	"			50														162.3						
	.36	4:36	"				50				50							50		164.						
	.37	4:37	"																	165.						
	.42	4:42	"	75	50			87.5	90.2	86.2			87	79	87	86.5				166.7						
	.45	4:45	"			✓	✓							50				✓	✓	171.						
	.47	4:47	"	50						50										171.3						
	.49	4:49	"					50												173.						
	.52	4:52	"						67																	
	.57	4:57	"						50				74	✓	75	75				178.						
	.59	4:59	"																							
	5:00	5:00	"										50							179.3						
	.30	5:30	"												50	66				180.						
	.37	5:37	"													50				181.						
	5:37	5:37	"	108	112.7	112.2		102.7		102.7			106		105.7		105		70.5	Temp						
					✓	✓									✓	✓										

DATE	TIME	MOD	AMB	452	453	454	455	456	457	458	458	476	479	480	528	529	1265	
6/13/61	7:00	Discharge		117	120	(57)		125	(145)	147		230	(147)		(57)			
	7:30	65	"	112	117	111		124	129			129.5	112		135		70	Temp
	8:00	60	"	107	112	115		100	102			124	114		126.5		67	"
	8:30	70	"	102	107	100		95	97			99	99		102		65	"
	9:00	100	"	95.5	100.5	93		96	94			91.7	95.5		100		64.5	"
	9:30	90	"	95	100	94.7		94	95			91	95		97		68	"
	10:00	80	"	94	98	94		89	91			92	92		96.5		65	"
	10:30	80	"	94	97.7	94.2		89	92			92	92.5		96.7		70	"
	11:00	100	"	94.5	98.2	95.2		90	92.5			93.5	92.5		97.5		70.2	"
	11:30	90	"	101	100	104	101	107	102	102	102	100.5	104.7	107	107.2	104.7	105.7	C. W.

Stood idle 36 hrs over Saturday + Sunday charged.

Discharge

6/14	8:00	70	"	124	127	127	125	127	127	127	128	129	127.5	127	127	125	125.5	75.7	Temp
	8:30	80	"	121	121	121		115	121			121.2	121			121.2			
	9:00	90	"	123	122	122.5	122.2	123	122.7	122.5	122.7	125	123.5	123	122.5	122.7	122.5		
	9:30	100	"	122	120.5	121	121.5	122	122.5	122.7	122.7	122.5	122.5	122	122.5	121	121.5		
	10:00	110	"	120	119	120	120	121	121	121	121	121	121	120.2	119.7	120	120		
	10:30	120	"	118.5	117	118.5	119	119.7	119.7	119.7	120.5	119.7	119.5	119.7	119.7	118.5	119		
	11:00	120	"	116.2	115	117	117.7	118.2	118.2	118.7	119.7	118.5	118	117	117.7	117	118		
	11:30	120	"	88.7	89	89.5		89	90			89	89.7		90		75.5	Temp
	12:00	80	"	115	113	115	116.2	117	117	117.7	117.7	116	116.5	116	114	116	117		
	12:30	100	"	114	111.7	114.5	115	115.7	116	116.5	117.7	117.5	118.5	118	117.7	114.5	115.5		
	2:00	120	"	113	110	112.7	113.7	114.2	115.7	116.2	117.7	117.7	117.2	114	110	112.5	114.2		

DATE	TIME																												
6/27/[illegible]	2.00	[illegible]	[illegible]	92.5	95	96		94		95.5			94.7		95.5		95.5		75	Temp									
	.20	[illegible]	"	110.5	107.7	112	112	112.5	112.5	112.5	114		112	112.2	112.5	112	112	112.5											
	.40	[illegible]	"	[illegible]	[illegible]	110	110	108.5	113	112	114		110.7	109.5	110	112.2	110.7	110											
	.50	107	"		107.7											107.5													113.3
	.54	114	"		110											110													116.
	.59	119	"																										119.3
2.00	130	"		105	97.7	107.7	107.7	102.5	110.2	111	112		105	105.5	105.2	96	105.5	105.5											
2.05	133	"		99.5	101	102.2		99.7		100.5			103		100.5		103		78.5	Temp									
.10	141	"		102.2	96	106.2	106	102.5	107	110	111		104.5	103	104	96.2	105.5	107											
.15	150	"		100																									131.
.17	152	"						110																					132.3
.20	200	"		99.2	92	104	102.7	99	107	107.7	109		100	100	102.2	94.5	101.7	104.5											133.3
.23	207	"															100												138.3
.25	209	"													100														138.7
.30	215	"		92.5	88.5	100	100	95	104	105	106.5		99.5	99.5	96.5	92	99	101											140.
.35	225	"		87.7	82.5	76	85	91	100	101	110		92	90.5	92	87.7	50	99.5											143.3
.40	230	"				50				100								85											146.7
.45	235	"																											151.
.47	237	"					50											50											152.3
.50	240	"		82	67.7	✓		87	91.2	91	50		85	84	85.2	87	✓	✓											153.
.55	245	"			50		✓			50																			153.3
.57	247	"																											156.3
.59	249	"		50																									159.
3.00	250	"						50	72				78.2	50	80	72													159.3
.05	255	"						50																					160.
.10	260	"																											160.3
.07	257	"		108.5	110	115.2		115		108			105.5		105.5		111.2		77.5	Temp									
.10	260	"							50				65		100.5	78.5													166.7
.13	263	"											50																168.7
.15	265	"													50														169.7
.20	270	"														50													173.3
.20	270	"		119	112	115.5		107		110.5			105		109.2		110.5		77.5	Temp									
				✓	✓									✓	✓	✓													

DATE	TIME	MIN	AMP	454	448	551	552	447	446	447	448	398	478	479	480	556	557	104	
6/21/09	6	Range		1.18	1.21	(1.18)		1.31	(1.42)		1.18	1.23	(1.45)			(1.37)			
	4.55	0	30	1.17	1.12	1.15		1.055		1.09		1.05		1.067		1.12		77	Temp.
	5.55	1.0	"	1.07.2	1.12	1.067		1.03		1.04		1.057		1.055		1.067		76.2	"
	6.55	1.20	"	1.15	1.095	1.04		1.07		1.07		1.03		1.03		1.05		76	"
	7.55	1.40	"	1.032	1.07	1.03		.9805		1.02		1.012		1.012		1.04		76.2	"
	8.55	2.40	"	1.02	1.062	1.02		.98		1.00		1.005		1.002		1.034		77	"
	9.55	3.00	"	1.02	1.06	1.027		.982		1.00		1.012		1.01		1.04		77.7	"
	10.55	3.40	"	1.032	1.067	1.04		.985		1.02		1.02		1.02		1.042		81.4	"
	11.55	4.20	"	1.054	1.08	1.06		1.02		1.045		1.04		1.04		1.07.7		83	"
	11.55	4.20	"	1.77	1.767	1.73	1.732	1.73	1.772	1.77	1.767	1.767	1.717	1.76	1.746	1.71	1.73		
						Discharge													
6/21/09	PM 12.00	0	40	1.44	1.422	1.42	1.417	1.40	1.43	1.43	1.422	1.43	1.40	1.44	1.37	1.37	1.387		
	.04	4	"	1.33	1.332	1.33	1.327	1.324	1.34	1.34	1.337	1.34	1.33	1.332	1.33	1.33			
	.10	10	"	1.31	1.305	1.31	1.307	1.302	1.312	1.305	1.31	1.327	1.31	1.31	1.31	1.31	1.31		
	.28	28	"	1.28	1.277	1.28	1.277	1.277	1.27	1.287	1.287	1.272	1.28	1.28	1.28	1.282	1.28		
	.40	40	"	1.245	1.245	1.25	1.245	1.247	1.257	1.255	1.26	1.257	1.252	1.25	1.247	1.252	1.252		
	1.00	60	"	1.22	1.217	1.23	1.225	1.224	1.233	1.23	1.24	1.23	1.227	1.227	1.217	1.23	1.23		
	1.00	60	"	1.10	1.122	1.112		1.07		1.12		1.09		1.107		1.14		85.7	Temp.
	1.20	80	"	1.20	1.197	1.21	1.207	1.207	1.215	1.215	1.235	1.205	1.207	1.202	1.197	1.212	1.215		
	1.40	100	"	1.19	1.182	1.192	1.192	1.20	1.197	1.207	1.212	1.19	1.197	1.19	1.182	1.197	1.20		
	2.00	120	"	1.172	1.17	1.18	1.177	1.182	1.19	1.192	1.202	1.18	1.182	1.18	1.17	1.182	1.185		
	2.00	120	"	1.15	1.16	1.167		1.11		1.14		1.15		1.15		1.15		87	Temp.
	2.20	140	"	1.16	1.157	1.165	1.162	1.165	1.18	1.16	1.192	1.165	1.167	1.165	1.15	1.167	1.172		
	2.40	160	"	1.145	1.135	1.140	1.145	1.147	1.16	1.165	1.175	1.15	1.155	1.155	1.135	1.147	1.155		

DATE	TIME	MIN	FMTS	704	488	481	482	482	466	467	468	398	478	475	482	468	469	TEMP IDLE
6/21/09	PM.																	
	3.00	180	70	112	1105	1137	1117	1152	1152	1152	114	113	1125	1121	1092	113	1137	
	3.00	180	"	113	120	120		115		113		117	117	1122		122		88 Temp
	3:20	200	"	109	107	111	1105	108	1122	113	114	110	1072	1083	1052	110	1112	
	39½	219½													100			-146.3
	:40	220	"	1022	1002	1065	106	103	1055	1030	1055	104	1035	104	999	108	107	
	41	221			100													-147.3
	46	226	"	100												100		-150.7
	50	230	"	982	96	101	1012	100	106	1082	1077	1015	1002	101	93	96.5	104	-153.3
	50½	230½				100							100					-154.3
	52	232					100							100				-154.7
	53	233										100						-155.8
	56	236															100	-156.7
	58	238													50			-158.7
	58½	238½									100							-159
	1.00	240		95	98	91	90	96	1025	103	96	98	97	98	96		83	
	1.00	240		127	131	131		120		122		123		122		120		88 Temp
	1.00½	240½				50												-161.7
	.01	241					50											-162.7
	.01½	241½							100	100						50		-163.7
	.02	242									50							-163.3
	1.0	250		82	80		90	94	88			93	85	92	82			-164.7
	1.0½	250½											50					-172.3
	1.0½	250½		50					50									-172.7
	1.0½	250½					50											-172.3
	2.0	260						78				84		85	87			-176
	2.0	260						50				50						-177
	2½	262½																
	3.0	270												57	74			-180.7
	3.1	271												50				-181.7
	3.0	270													50			

DATE	TIME	MIN	FLOW	404	488	461	462	482	466	467	468	478	479	480	468	469	TEMP IDLE	
6/21/09	Charge			169	122	(49)		137		(147)	149	132	(49)		(59)			
	4:00	0	30	130.7	130.7	130.2		128.5		127.7		128.5		130.5	131.5	90.5	TEMP	
	5:00	60	"	128.5	130	127		123.2		126		122		127	127.5	91	"	
	6:00	120	"	129.7	128.5	128.5		123.2		121.2		122.2		122	124.7	93	"	
	7:00	180	"	130	129.7	120		119		117		120		118	121	93	"	
	8:00	240	"	116	121	118		111		114.7		115		115	119	92	"	
	9:00	300	"	115	119	116		110		113		113.5		114	118	92	"	
	10:00	360	"	114	117	115		109.5		112.5		112.7		113	117.5	89.7	"	
	11:00	420	"	112.2	117	114		109		112		112		112	117	88.5	"	
	11:55	420	"	173	172.2	165.5	171	171	174	172.2	173	172.5	169	172	171	167	170	T.D.
6/22/09	Discharge.																	
	AM 2:00	0	40	143	141.5	141.5	140	135	141	140.2	140.2	141	138	138	137	131	132.2	
	.05	4	"	133	132.2	132	131.5	132	133	132.2		132.5	133	132.5	132.5	132	132	
	.10	10	"	130.5	132.2	130	129.7	130	131.5	131	130.2	132	131	131	131	130	130	
	.20	20	"	127	127.7	127.2	127	127.7	127.5	127.2	128	129.5	127.2	127	127	127.7	128	
	.40	40	"	124	124	124	124	124.2	125.5	125	125.5	125.5	124.5	124.2	124	124	124.2	
	1.00	60	"	121	121	121.7	121.7	122	122.2	122.2	123	122.2	122	121.7	121	121.7	122	
	1.00	60	"	117.7	116.5	116		111.2		114		113		114	116.5		116.7	Temp
	20	80	"	120	119.5	120	121	121	121	121	122	120.2	121	120.2	119.7	120.2	121	
	.40	100	"	119.2	118	118.5	118.5	119.7	120	120	121	119	119.7	119	118	119	119.7	
	2.00	120	"	116.7	116.2	117	117	117.2	119	119	119.7	117.5	117.2	117.5	116	117.5	117.7	
	2.00	120	"	116.5	121.2	120		114		117		116.2		117		123.2	116.5	Temp
	2.20	140	"	115.5	119.5	117	115.5	116	117.7	117.7	118.2	116	116	116	114	117.7	116.5	
	.40	150	"	115	119.2	115.5	115	115	116	116.2	117	114	114	114	114	115.5	115	

DATE	TIME	MIN	AMPS	407	477	551	552	472	476	467	417	395	478	479	418	562	589	1046	
6/26/04	AM 2:00	100	40	119	109	111	110	112	114	114	115	111	111	115	107	110	112		
	3:00	110	"	117	122	122		115		119		112		115		122		57	
	10	190	"												109				
	20	200	"	107	105	104	108	112	112	112	113	105	102	104	102	107	110		
	30	210	"	104	102	104	105	104	110	110	115	115	105	105	101	105	105		
					100	100									100	100			144.
	50	215	"				100												146.
	4:00	220	"	100.2	94	99.2	97	102	102	105	109	103	102	103	99	50	104		
	10	222	"	100												50			148.3
	20	223	"			50													149.
	40	225	"														100		150.3
	50	226	"					100				100	100						152.
	5:00	229	"																152.7
	10	230	"	95	90		50	96.5	104	104	102.2	99	95	100	91		49		153.7
	15	232	"							100	100						50		155.7
	16	235	"								50								158.7
	19	237	"																159.7
	4:00	240	"	87	73			94	100	97		95	92	95.5	93				160.
				120.5	126.5	130		117.5		122		120.5		122		127		57	
	4:00	240	"		50														161.3
	10	241	"							50									165.
	15	242	"																166.
	19	243	"	50									50						
	19	243	"					55	53			85		87	42				
	19	244	"					50								✓	✓		168.3
	19	245	"						50										172.7
	20	246	"	✓								64		67	77				
	20	247	"									50		50					175.7
	20	248	"												55				177.3
	30	251	"												50				
	33	253	"																182.
	35	255	"	126	124.2	130		127		129.5		124.2		121		132.5		57	
													✓		✓				

DATE	TIME	MIN	AMPS	479	478	551	552	472	466	467	468	398	397	399	400	584	583	[illegible]	
5/22/09	[illegible]	Charge		170	172	(60)	124	(142)	157			233	(150)			(60)			
	4:55	0	30	129	125	127.5		124		126.7		1275		127.7		130.5		27	Tank
	5:55	60	"	122	122.2	121		116		119		1205		122.7		122.2		26.5	"
	6:55	120	"	117	122.7	117		117		117		1155		115.2		115.2		27	"
	7:55	180	"	1135	118.7	113.7		107.5		111		111.2		111.7		116		26.2	"
	8:55	240	"	1105	110.5	112		106		109.2		109.7		110		114.5		26.5	"
	9:55	300	"	110	110.5	111		104		108		108.2		108.5		113.5		26.5	"
	10:55	360	"	109.2	113.2	110.2		107		108		107.7		108		113		27	"
	11:55	420	"	109	113.2	110	112.7	111	114	113.2	113.7	108		108		112.7		28	"
				173	174	172	171	171	174	172.2	172	173.2	174	172.2	171	168	170		T.D.
6/22/09	7:17			D. Discharge															
	1:00	0	40	142.5	140.7	141.5	141.5	140	141.5	141.2	141.2	141.5	137	138.5	137.5	138.7	137		
	.04	4	"	133	132.5	132.2	132	132.2	133.5	132.7	132.7	134.5	133	133.7	133.7	132.2	132.2		
	.10	10	"	130.2	130	130	130.7	130	131.2	130.7	130.5	132	131	130.5	130.5	130	130		
	.20	20	"	127.7	127.2	127.2	127.2	127.5	128.5	128	128	129.2	128.5	128.2	128	127.2	127.7		
	.40	40	"	124	123.5	124	124	124.2	125	124.7	125.2	125	124.2	124	123.7	124	124.2		
	1.00	60	"	121.2	120.7	122	121.7	122	122.5	122.2	122.5	122	121.7	121.5	120.7	121.7	122		
	1.00	60	"	113	112.7	114		109.7		112		111.7		112.7		111		87.2	Tank
	.30	90	"	119.5	118.7	120.2	120.2	120.5	120.7	121	122	120	120.2	120	119	120	120.5		
	.40	100	"	118	117.5	118.2	118.7	119.5	120	120	120.7	119.5	119.2	118.5	117.2	118.7	119.2		
	2.00	120	"	116.2	116.2	116.7	117	117.2	118.2	118.7	119.2	117	117	117	116.7	116.7	117.2		
	2.20	120	"	116	120	120		115		115		116		116		122		87.2	Tank
	.20	140	"	115	114.2	115.2	114.7	115.2	117.2	117.2	118.2	115	115.5	115.2	117.2	115	116		
	.40	140	"	113	111.7	113.7	113.5	113	116	115.7	116.7	113.5	115.2	113.5	109.2	112.7	114.2		

DATE	TIME	MINUTES		704	482	444-1	444-2	482	466	467	468	398	478	479	480	568	569	TEMP HOLE	
1947.																			
6/22/07	2.00	180	4/0	1097	1082	111	107	110	114	1137	1152	1047	1097	1145	1044	1097	112		
	3.00	180	"	118	1227	1227			1152	1187		118		118		1247		90	Temp.
	20	200	"	106	104	107	1072	1047	111	111	112	106	1047	106	101 100	1047	1082		
	24	204	"													100			-136
	29½	209½	"																-139
	30	210	"	103	1047	113	1042	1035	109	107	111	1630	1025	1037	99	93	186		
	31	211	"		100														-140.7
	33	213	"			100													-142
	34	214	"				100												-144
	34	214½	"	100															-144.3
	35	215	"										100						-145.3
	39½	219½	"													70			-146.3
	40	220	"	99	96	81	95	109 100	106	107	1082	1004 100	1097	1004 100	97		150		-146.7
	41½	221½	"									100							-147.7
	42½	222½	"			50	50												-149
	43	223	"														50		-151
	44	224	"								100								-152.7
	44½	224½	"	94	65	✓	✓	98	103	103	98	98	96	98	95	✓			-153
	45	225	"						100	100							✓		-153.3
	45½	225½	"						102										-154.5
	50	230	"								60								-157.3
	55	235	"																-157
	57	237½	"		50														-158.3
	403	213	"	58	✓			80	81	82		69	54	70	68				
	403	213	"																
	403	213	"	50									50						-1623
	403	213½	"							60									-1637
	403	213½	"					50											-1645
	403	213½	"	✓								72		77	84				
	404	214	"						50										-167
	404	214½	"									50							
	17	207	"										1	50					-171.3
	18½	208½	"												66				-172.3
	20	260	"																
															50				-174
	25	265	"	17.															
	25	265	"	1.702	136.	132.		1252		1267		130	✓	133		129		91	
														✓	✓				

DATE	TIME	MIN	AMPS	464	465	551	552	482	466	467	463	548	470	479	480	502	509	Hr	
4/29/03		Charge		121	124		(24)	139		(149)	158	234		(151)			(61)		
	PM 400	0	30	129	133.2	125.5		124		126.5		126.5		127		130.5		907	
	500	10	"	125	130	124		119		121		122		122		125		89	
	600	120	"	122	126	121		116		118.5		119		119		122		80	
	700	180	"	119	124	118.5		113.5		115		116		116.5		119		88	
	800	240	"	116.5	121	116		111		113		114		112		117		82	
	900	300	"	115	120	115		116		112		112		112		115		87	
	1000	360	"	115	119	114.5		108		111		114		117		115		87.7	
	1100	420	"	114	117.7	114		106.7		110.5		111		110.7		114.5		82.5	
	1155	450	"	176	179.2	170	172	172.2	177	175	175	172	171	173.5	173	169.5	171		Thus
								Discharge											
6/2	PM 1200	0	40	144	142	142	141	140	142	141	141	142	139	139	138	137	137		
	04	4	"	133.7	133.2	132	132.5	132	132.2	131	130.7	133.5	133.7	133.7	133.7	133	133		
	10	10	"	131.5	131	130.5	130.5	130.5	130.2	131.5	131	131.5	131.5	131.5	130.5	130.5			
	20	20	"	128.2	128	127	127.7	128	129	129	128.5	130	129	128.5	128.5	128	128		
	40	40	"	125	125	125	125	125	126	126	126	126.2	125.5	125.5	125	125	125.5		
	1:00	60	"	122.2	121.7	122.2	122.5	122.5	123	123	123	122	122.5	122.2	121.7	122.2	122		
	1:00	60	"	114.5	118	115.5		110		112.5		112		111.7		116.2		84.7	Temp
	20	80	"	120.2	120	121	121	121.5	121.7	121.7	122.5	122	121	120.5	120	121	121.5		
	40	100	"	119	118.5	119.5	119.5	120	120.5	121.7	121	120	119.7	119	118	119.5	119.7		
	2:00	120	"	118	117	117	117.7	118.2	119	119.7	120	119	118.2	118.7	118.5	118	118.7		
	2:00	120	"	115	120	117.2		117		114		115.5		113		118		82	Temp
	20	140	"	116.2	115	116	116	117	118	118	118.5	116.5	117	116.2	115	116	117		
	40	160	"	115	113.5	114.2	114	115	116.5	116.5	117.5	116.5	115	115	112.5	114.5	116.7		

DATE	TIME	MIN	AMPS	404	488	551	552	482	466	467	468	398	478	479	480	568	569	TEMP Addl	
6/23/09	3.00	110	7.1	112.5	111	112	112	112.5	115	115	115.7	113	113	113	109.7	112.5	113.7	81.5	Temp
		1.5	"	115.7	120	112.5		111		113.7		112		113		120.5			
	.20	2.00	"	110	107.7	109.5	109.5	113.7	113	113	113.7	110.5	110	110.2	101	109	111		
	.40	2.20	"	105	102	101	104	106	109.7	110	112.5	106.7	106	106.2	101	100	107		133.3
	.43/L	2.23/L	"			100													149
	.45	2.25	"			100									100				150
	.47/L	2.27/L	"				100									50			152.3
	.50	2.30	"	101	95.5	50	92.5	103	107	105.5	105	103	103	103	98		100.5		154.
	.51	2.31	"			50											100		154.7
	.52	2.32	"																155.3
	.53	2.33	"	100								100	100						159.
	.54/L	2.34/L	"				50		100	104	103.5		99	101	96.5		50		160.
	1.00	3.00	"	95	81.7						100	112.5		114.7		127		80.7	Temp
	.02	3.02	"	117	123	126		114		116.2				100					162.3
	.03/L	3.03/L	"																164.
	.10	3.10	"		50	✓	✓			120	50					V	V		165.3
	.15	3.15	"																165.7
	.20	3.20	"	81.7				93.7	100 95.5	92		94	88	95	92				
	.21	3.21	"	50						50									169.3
	.22	3.22	"										50						170.3
	.23/L	3.23/L	"	✓															171.7
	.25	3.25	"					60	95			83		85.5	85				
	.26/L	3.26/L	"				50												174.3
	.27	3.27	"						50										178.
	.29	3.29	"									50		52	71				180.
	.31	3.31	"											50					182.7
	.32	3.32	"												62				185.3
	.33	3.33	"	124.7	121	125		120		122		115		117		127		80.5	Temp

Cells 404, 488 were removed from this test and connected up on testing board for over charge test. See results in individual record book 6/23/09

Date	Time	MP	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				(122)		1.42	(1.62)		1.22	235			(122)		(122)											
6/23/09	Am 4 55	0	20	1.22		120		121		1.22			1217		124		80.5	Temp.								
	5 55	[illegible]	"	1115		111		113		114			1135		1175		80.2	"								
	6 55	1.15	"	1075		107		110		1105			110		1147		80.5	"								
	7 55	1.25	"	1047		104		1072		1077			1045		1097		81.7	"								
	8 55	1.34	"	103		1027		1047		106			106		111		82.5	"								
	9 55	[illegible]	"	1022		103		1045		1062			1052		110		83.7	"								
	10 55	[illegible]	"	1022		104		1062		106			1062		111		84.7	"								
	11 55	4.45	"	1052		1057		1084		1085			108		112		84.7	"								
				1.722	1.722	1.717	1.765	1.747	1.75	1.752	1.752		1.74	1.725	1.692	1.705	TD									
			Discharge																							
6/23/09	PM 12 00	0	1/0	1.407	1.402	1.395	1.407	1.407	1.405	1.412	1.385		1.385	1.375	1.367	1.367										
	.04	1/	"	1.322	1.32	1.325	1.335	1.335	1.332	1.34	1.332		1.33	1.33	1.325	1.327										
	.10	1/0	"	130	120	120	1.312	1.31	1.307	132	1.31		1.307	1.31	1.302	1.302										
	.20	2.0	"	1.277	1.275	1.274	1.282	128	128	1.292	1.282		1.28	128	1.277	1.277										
	.40	1/0	"	1.242	124	1.242	1.252	1.252	1.247	1.255	125		124	124	1.247	1.247										
	1.00	6.0	"	122	1.222	1.227	123	1.227	1.225	1.225	1.222		122	1.22	1.222	1.222										
	1.00	6.0	"	1.22		111		1.135		113			1.132		1.22		88	Temp.								
	.20	1/0	"	1.207	1.207	1.212	1.212	120	1.222	1.207	1.207		120	1.195	1.205	1.207										
	.40	1.0	"	1.172	1.172	120	1.202	1.202	1.212	1.22	1.195		119	1.177	119	1.195										
	2.00	1.20	"	1.172	1.177	1.182	1.192	1.192	120	120	118		118	116	1.175	118										
	2.00	1.20	"	104	105	105	118		117				1.172		122		89.2	Temp.								
	.20	1/40	"	116	116	1.162	1.177	118	1.165	1.165	1.167		1.165	1.157	1.157	1.165										
	.40	1/60	"	1.19	1.192	1.192	1.165	1.182	1.175	1.175	1.147		1.172	1.157	1.157	1.195										

DATE	TIME	MIN	AMPS	551	552	553	566	567	568	378	378	579	580	568	569	TEMP IDLE	
6/2 3/09	PM 3.00	180	40	1117	1117	1115	1147	1147	1155	1127	112	112	1025	111	1125		
	3.00	180	"	118		118		1217		120		1265		126		905	temp.
	10	190	"	1132	1132	113	1137	1137	1145	111	110	1162	1157	1185	111		
	20	200	"	1084	1084	108	1082	112	113	1092	1082	1082	1036	1072	1092		
	30	210	"	1062	1062	106	110	111	112	107	106	106	1002	103 100	1077		
	35	215	"										100				142.3
	39	219	"														143.
	40	220	"	100	101	103	1077	108	109	107	1025	1025	982	67	1022		146.7
	41	221	"		100									50	100		147.3
	42	222	"								100						148.3
	48	228	"														152.
	49	229	"			100											152.7
	50	230	"	66	71	999	1045	105	1032	104	9997	100	91	✓	50		153.3
	52	232	"	50													154.7
	53	233½	"		50				100								155.
	54	234	"					100							✓		157.3
	58½	238½	"						50								159.
	59	239					100										159.3
					✓												
	4 00	240	"			94	99	94		95	90	842	92				
	4 00	240	"	129		122		1275		125		126		105	912		temp.
	03	243	"					50									164.7
	08	248	"							50							165.3
			"	✓													
	10	250	"			50	81				86	87	85				166.7
	10½	250½	"				50										170.3
	20	260	"							1050		1048	68				173.3
	22	262	"									1050					174.7
	27	267	"										1050				178.

Cells 551, 552, 568, 569 were removed from this test and connected up on testing board for overcharge tests. See results in individual record book, 6/28/09.

DATE	TIME	MIN	MTR	462	466	467	468	478	478	479	480	REMARKS
6/23/09		change		141	(137)	133	136		(135)			Temp.
	4:00	0	20	128		130		130		130		92 "
	5:00	60	"	122		124		126		125		92.5 "
	6:00	120	"	118		122		122		122		92.5 "
	7:00	180	"	113		117		118		119		93 "
	8:00	240	"	110		113		115		116		92.5 "
	9:00	300	"	108		111		112		112		91.5 "
	10:00	360	"	106		110		111		111		89.7 "
	11:00	420	"	106		110		110		110		89.7 "
	11:00	420	"	172	176	173	173	173	169	172	172	T.D.
6/24/09	A.M.		Discharge									
	12:00	0	40	142	143	142	141	142	139	137	137	
	01	1	"	132	133	133	133	134.5	133	132	132	
	10	10	"	130	131	130.5	131	132	130.5	130.5	130.5	
	20	20	"	127	128	128	128	128	128	128	128	
	40	40	"	124	124.5	124.5	125	125	124.5	124	124	
	1:00	60	"	120	122	122	122.5	122.5	122	122	122	115.5 Temp
	1:00	60	"	110		114		117		114		
	1:20	80	"	120	120	120	120	120	120	119	119	
	1:40	100	"	119	119	119.5	120	119	119.5	118.5	117	
	2:00	120	"	117	117	117	119	117	117	117	115	87.7 Temp
	2:00	120	"	117		114.5		114		115		
	2:20	140	"	114.5	116	116	116.5	115	114.5	115	117	
	2:40	160	"	112	115	115	116	115	112	113	116	

DATE	TIME	MIN	AMPS	452	461	467	468	478	479	480	Sell	
6/27/33	3:00 AM	120	40	109	112	113	114	112	109	109.7	104.5	
	3:00	120		112		110.2		115.7		116.2	86.5 Temp	
	.10	180		117						115	102.2	
	.20	200		104.2	102	110	111.5	105	104	105	100.	133.3
	.30	210		102.4	102	104	109.4	104	102	102	94	
	.32	217							100			145.
	.35	225		100						100		145.3
	.39	229										146.
	.40	226		99	100	110.7	116.2	102	99.5	99.5	97.5	
	.45	230					100	100				149.3
	.50	237				100						150.3
	.55	239		89	100	87	62	92	77	93	90.5	153.3
	.58	240					50					154.7
4:00		240		80	91	66		88	50	89	87	160.
	.03	243				50						162.3
	.05	245		115		119		117.5		117	55.5 Temp	
	.06	246		50								164.3
	.10	250			7.50			73.5		74.5	77.5	
	.14	254							50			169.3
	.14	254								50		169.7
	.15	255										170.3
	.20	260								66.50		
	.29	269		120		125		121.7		121	Temp	179.3

DATE	TIME	MIN	AMPS	462	466	467	685	476	478	479	480	Volt.	
1/27/09	6 Charge			142	(1.22)		.154	237		(154)			
	AM 4.55	0	30	113.5		125			122.7	122.2		85	Temp.
	5.55	60	"	113		117			117.5	115.7		85	"
	6.55	120	"	107		111.5			112.2	112.7		85	"
	7.55	180	"	106		111			111.7	111.7		84.7	"
	8.55	240	"	105		109.2			110	110.2		87.2	"
	9.55	300	"	104		109			109	109		88	"
	10.55	360	"	104		108.5			108.2	108.7		89	"
	11.55	420	"	104.7		110.7			110.2	110.5		90.5	
	11.55	420	"	171	172.2	172.7	171.7		171.7	168	170.7	171.7	Temp.
				Discharge									
1/24/09	PM 12.00	0	40	141	142.5	142	141.7		141	139.2	139	137.7	
	.04	4	"	132	132.7	130	132.7		134.2	132	132.7	132.7	
	.10	10	"	129.5	130.7	130.5	130		131.7	131	130.2	130	
	.20	20	"	127	128	127.5	127.5		128.2	127.5	127.2	127.2	
	40	40	"	124	124.7	124.2	125		125	124.2	124	123	
	1.00	60	"	122	122.2	122	122		121.7	122	121.7	120.5	
	1.00	60	"	110		115			114		114		91.7 Temp.
	20	80	"	120.5	120.7	120.7	121.2		121.5	120.2	118.7	117.7	
	40	100	"	119	119	119.5	120.5		118.2	118.5	118.2	116.2	
	2.00	120	"	117.5	118.5	118.2	119.2		117	117.2	117	115	
	2.00	120	"	114.5		117.5			108.7		117		92.2 Temp.
	20	140	"	115.5	117.2	117.2	118		115.5	115.5	115.5	113.5	
	40	160	"	112.7	115.7	115.5	116.5		113.5	113.5	113	109	

DATE	TIME	MIN	AMPS	482	466	467	468	375	423	479	480	Delli	
4/24/69	3:00	180	40	110	1197	1135	1147	1162	1095	1145	103		
	3:00	180	"	1182		1232		122		122		93	Temp.
	10	190	"	1082	122	122	114	109	104	1082	103		
	20	200	"	1157	110	1162	112	106	102	1057	100		
	24	204	"								100		— 136.
	30	210	"	1092	111	1022	116	1037	1017	1025	982		
	34	214	"						100			"	— 142.7
	37	217	"							100			— 144.7
	38	218	"					100					— 145.7
	40	220	"	100	100	1040	106	997	98	992	96		— 146.7
	45	225½	"				100						— 150.3
	47	227½	"			100							— 151.7
	48	228½	"										— 153.
	50	230	"	91	100	98	94	95	92	945	928		
	52	232	"		999		80						— 154.7
	59	239	"						50				— 159.3
	4:00	240	"	122	92	63		90		98	91	9.	
	4:00	240	"	125		121		127		121		93	Temp
	01	241	"			60							— 160.7
	05	245	"	50									— 163.3
	07	247½	"		50			50		57	76		— 165.
	15	255	"							50			— 166.7
	17½	257½	"								51		— 167.7
	20	260	"										
	06	260½	"								50		— 173.7

DATE	TIME	MIN	RATE	482	466	467	398	478	479	484		Date	
				#13	#53	#55	238	(Lung)					
6/6 2407	charge			126		130		130.7		130.2		93.5	Temp.
	4:30	0	30										
	5:30	60	"	121		120.7		127		126.2		93	"
	6:30	120	"	112		122		123		122.5		93	"
	7:30	180	"	114		118.5		119		119		93	"
	8:30	240	"	111		115		115		116		93	"
	9:30	300	"	109		114		114		114.5		91	"
	10:30	360	"	107.5		113.5		113.5		113.7		90	"
	11:30	420	"	107		112.7		112.5		113		90	"
	12:30	480	"	171	174	171	171.5	172	172.2	171	171.5		P.D.
				Discharge									
6/25	Avg. 12:00	0	40	144.5	143	142.2	141	142	139	138.5	137		
	:04	4	"	132	133	132.5	132	134	132.7	132.2	132.5		
	:10	10	"	130	131	131	130.2	132	131	131	131		
	:20	20	"	127.7	128.2	128	128	129	128	128.5	128		
	:40	40	"	124	125	124.5	125	125	127.2	124	127.7		
	1:00	60	"	122	122.5	122.2	123	122	122.2	122.7	121		
	1:20	80	"	112		116.2		115.7		116.5		89.7	Temp
	:20	10	"	120.2	120.5	120.5	120.7	120	120	120	119		
	:40	100	"	119.5	119.7	119.7	120	118.5	118	118.5	117		
	2:00	120	"	116.7	118.2	118.5	118.7	116.5	116.2	116.5	115.5		
	2:00	120	"	114		119		118		119		89	Temp
	:20	140	"	115	117	116.2	117.5	115	114.5	115	112		
	:40	160	"	113	116	115.5	116.2	113	112.5	113.5	110		

DATE	TIME	MAIN	AMPS	442	446	447	448	394	476	479	480	1066	
2/2/07	Am 2:00	100	40	107.7	110.2	112	114	109	107	105.5	105.5		
	2:00	100	"	119.2		120.5		119.7		120.5	102.5	885	Temp
	:10	193	"								100		
	:20	220	"	105.7	111	110.2	112	107	104.5	104.5	102		139.3
	:29	220	"								100		
	:30	210	"	107	109	105.5	110	104.5	103.5	104	X		143.3
	:35	215	"						100				
	:40	220	"	103.2	111.2	106	107	101	99.5	101	97		147.3
	:41	221	"	100									
	:42	222	"					100		100			149.
	:50	225	"	97	103	101.5	103	97	98.2	97	98.5		153.3
	:54	227	"			100							155.
	:55	225	"		100		50						156.7
	4:00	214	"	88	95	99.7		91	89.5	91	90.2		
	4:00	214	"	117		127.7		122.5	50	124		885	Temp
	:02	214	"										162.
	:04	217	"			50							163.
	:07	217	"	50									164.7
	:10	220	"		70			71		70.5	81		169.3
	:14	220	"		50			50					171.3
	:17	217	"							50			171.7
	:17	217	"								81		
	:25	215	"								50		
	:26	217	"										179.
	:35	220	"	124		121.5		127		124		885	Temp
				✓									

DATE	TIME	MIN	AMP	412	466	417	408	398	471	479	480	126	
6/25/09		Charge		144	(141)	151	239	(150)					
	4:25	0	20	121.5		127		126.2		129		88	Temp
	5:00	40	"	114		122.5		122.5		122.2		88	"
	6:00	120	"	113.5		117		117.5		117.5		88	"
	7:00	180	"	108		112.7		113		115		88	"
	8:00	240	"	106.7		112		113		113		88.2	"
	9:00	300	"	107		111.7		112		112.2		89	"
	10:00	360	"	107.2		112		112.2		112.7		90.2	"
	11:00	420	"	108		112.7		112.7		113		91	"
	11:50	473	"	1.712	1.747	1.722	1.72	1.722	1.692	1.71	1.712		V.D.
						Discharge							
6/25/09	PM 12.00	0	40	1.41	1.425	1.422	1.41	1.41	1.39	1.392	1.385		
	.04	4	"	1.325	1.332	1.325	1.322	1.322	1.337	1.33	1.33		
	.10	10	"	1.302	1.312	1.31	1.305	1.32	1.312	1.31	1.31		
	.20	20	"	1.277	1.29	1.292	1.282	1.292	1.28	1.282	1.28		
	.40	40	"	1.25	1.267	1.262	1.267	1.26	1.262	1.267	1.265		
	1.00	60	"	1.222	1.23	1.225	1.232	1.222	1.22	1.217	1.212		
	1.00	60	"	113.		117		116.5		117.		92.5	Temp
	.20	80	"	121	1.212	1.212	1.22	1.205	1.207	1.20	1.192		
	.40	100	"	1.195	1.197	1.197	1.207	1.187	1.15	1.187	1.175		
	2.00	120	"	1.177	1.182	1.182	1.192	1.17	1.172	1.17	1.165		
	2.00	120	"	116		120		1.19	[illegible]	[illegible]		92.7	Temp
	.20	140	"	1.155	1.172	1.17	1.13	1.165	1.152	1.155	1.157	[illegible]	
	.40	160	"	1.133	1.16	1.155	1.16	1.157	1.157	1.155	1.17		

DATE	TIME	MIN	AMTS	482	466	467	468	378	478	479	480
6/24/09	P.M. 3.00	180	%	1162	114	1135	1141	1107	1092	1185	106
	3.00	180	"	118		123		129		1232	
	10	170	"	1023	1135	112	1137	1072	1077	1087	104
	20	200	"	1065	111	1107	1122	1072	1045	1065	102
	30	207½	"	1037	1092	108	1097	1033	1082	169	100 987
	38	210	"						100		
	37	217	"								
	40	220	"	102	107	106	1027	1017	99	100	172
	41	221	"							100	
	42	222	"					100			
	43	222½	"	100							
	47	227	"				100				
			"								
	50	230	"	97	102	103	82	92	925	92	94
	57	237	"		100						
	59	237½	"				50				
	400	240	"	88	94	88		90	50	90	895
	400	240	"	172		129		127		127	
	03	242	"			50					
	07	247	"	50							
	10	250	"		56			41		41	95
	10½	250½	"		50						
	12	252	"					50			
	12	252½	"							50	
	20	260	"								50
				✓				✓			

TEMP	TABLE
93.2	Temp
	138.3
	144.7
	147.3
	148.
	149.
	151.3
	153.3
	159.
	159.3
	160.
	Temp
	161.3
	164.7
	167.
	168.
	169.3
	173.3

DATE	TIME	MIN	AMP	452	466	467	468	398	476	479	480	Temp Side	
6/25/09			Discharge	145	(155)	157	240		(157)				
	PM 455	0	30	1247	130		Low		127			94	Temp
	555	60	"	1162	122		127		132			91	"
	655	120	"	112	118		117		119			90	"
	755	180	"	109	115		115		116			85	"
	855	240	"	104	111		111		112			84	"
	955	300	"	100	110		110		110			84	"
	1055	360	"	103	109		110		110			83	"
	1155	420	"	103.5	109.5		110		110.2			83	
	1255	420	"	174	177.2	174.2	175	176	171	176.2	174.5		T. D.
				Discharge									
6/26/09	AM 1200	0	43	142	144	143	140	142.5	133.5	139	134.2		
	:10	4	"	132	133.5	132.5	133	133	133.5	133	133.5		
	:10	10	"	130	131.5	131	131.5	131.2	131	131	131		
	:20	20	"	126	129.5	129	129.5	130	129	129.5	129.5		
	:40	40	"	124.2	126	125	125.5	125.5	124.5	124.2	124		
	100	60	"	122	122.2	122	123	122	122	122.5	121		
	120	80	"	175		125		122		123		83	Temp
	:20	80	"	121	121	121	122	120.2	120.2	120	119.5		
	:40	100	"	119.7	120	120	121	119	119	119	119.5		
	200	120	"	117	118.2	118	119	117.5	118	117	117.5		
	2:00	120	"	109.5		114.5		114		115		83	Temp
	120	140	"	116	117	117	117	115.5	115.5	115.5	113		
	140	160	"	113	114.5	114.5	115.5	115.5	115.5	113	112		

DATE	TIME	MIN	TEMP	482	466	467	428	3951	3478	779	1180	Sell	
6/26/55	2:00 AM	10	40	110	112	115	114	111	109.5	110	111		
	2:00	10	"	112		118		117		118		83	Temp
	:20	2:10	"	108	112	112	113	109.5	107.7	108.2	109		
	:30	2:20	"	106	110	110	111.7	107	106	105.7	102		
	:35	2:25	"								100		145.7
	:40	2:30	"	102	108	108	109.5	108	103	105.5	98		
	:47½	2:37½	"						100				151.7
	:50	2:40	"	100.7	103	105	105.5	103	102.2	100	96.2		153.3
	:52	2:42	"	100				105					154.7
	:55	2:45	"				100						156.7
	:59	2:49	"			100							159.3
	4:00	2:50	"	95.7	100	97.7	62	95	96.5	95	92		160.
	4:00	2:50	"	113		120			119.2		121	80	Temp.
	:02½	2:52½	"				63						161.7
	:10	2:60	"	.88	912	622		897	880	888	892		166.7
	:12	2:62	"			850							169.
	:17	2:67	"	850									172.7
	:20	2:60	"		884			627		666	785		174.
	:21	2:61	"		850								175.
	:22½	2:62½	"					50		50			176.3
	:24½	2:64½	"								567		
	:30	2:70	"										
	:30	2:70	"	1185		1270		1332		1252		82	Temp
	:32	2:72	"								50		182.
					✓			✓					

DATE	TIME	MIN	AMP	482	466	467	468	478	478	479	480	Temp. of Bath
6/26/09	8 A.M.	Charge		146	(1056)		1058	274	(1058)			
	1.00	0	.30	1182		1247		1207		1207		83.2 Temp.
	5.00	60	"	113		119		1207		1205		83
	6.00	120	"	1077		1142		11005		1105		84.2
	7.00	180	"	1005		111		112		1122		85
	8.00	240	"	104		1082		1087		109		85.5
	9.00	300	"	1044		109.		109.		1095		87.5
	10.00	360	"	105		1077		110		1102		
	11.00	420	"	1122	1257	1123	1123	1237	1170	1123	1123	
	11.00	420	"	101		111		111		111		T.D.

Total table = 6 hours over Saturday and Sunday charged

6/28/09	A.M.		Discharge									Temp.
	12.00	0	1.0	1207	1266	1210	1205	1227	1208	1202	1205	
	.04	4	"	1225	1227	1222	1217	1225	1227	1222	1222	
	.10	10	"	1207	1207	1200	1212	1205	1202	1200	1200	
	.20	20	"	1195	1195	1189	1194	1195	1187	1185	1188	
	.40	40	"	118	118	1177	1185	1175	1172	1167	1176	
	1.00	60	"	1167	1167	1165	1177	1165	1167	1165	1167	
	1.00	60	"	90		967		977		982		89.5 Temp.
	1.20	80	"	1157	116	1.16	1172	1.165	1.147	1145	1157	
	.40	100	"	114	115	115	116	1135	1132	1132	1135	
	2.00	120	"	1117	114	1137	1147	1117	1112	1105	1115	
	2.00	120	"	1012		104		1.03		1.03		89.2 Temp.
	3.00	180	"	1.092	1125	112	1135	1.097	1.082	1.092	1.093	
	3.30	210	"							1.09		106
	4.00	240	"	1.057	1102	110	1110	1.065	1.042	1.065	1.072	

DATE	TIME	MIN	AMTR	482	466	467	468	378	476	477	478	Temp. diff.
	.9872	.1878	7.0									119
	.977								100			
6/8/07	3.00	180	7/0	1.017	1.024	1.024	1.09	1.02	.992	1.024	.9872	
	3.00	180	"	1.065		1.102		1.024		1.097		83.7 Temp.
	00	186	"							100		124
	07	2/8	"	1.00								125
	.08	188	"						100			125.3
	.1/1	1.78	"	.977	1.044	1.024	1.087	.972	.984	.977	.927	
	20	200	"	.974	1.017	1.012	1.00	.984	.972	.984	.907	133.3
	26	2006	"				100					137.7
	.27	207	"			100						139.3
	.30	210	"	.902	.984	.984	.950	.90	.867	.902	.882	140.
	.40	220	"	.812	.91	.865		.827	.832	.846	.842	
	40	2202	"			850						147.
	.41	221	"						850			147.3
	46	2216	"	850								151.
	47	2219	"					850				153.
	50	230	"		60					787	71	153.3
	57	2291	"							760		154.3
	58	2282	"								740	159
	400	240	"	.114		.119		.1172		.1177		83.2 Temp.
				✓				✓				

	Time	Min.	Min.	482	466	467	468	398	478	477	480	Temp.	
6/28/09	charge			147	(157)	157	242		(159)				
	P.M.												
	4:45	0	30	108		112		113		112.2		83	Temp.
	5:45	60	"	104		105		102		110		82	"
	6:45	120	"	104		106		107.2		107		80.5	"
	7:45	180	"	98.7		103		104		104.7		80.2	"
	8:45	240	"	97.		101.7		102.5		102.7		80.	"
	9:45	300	"	97.2		101.5		102.		102.2		80	"
	10:45	360	"	98.		102.2		102.5		102.5		81.	"
	11:45	420	"	99.5		104.		104.		104.		82.5	"
	11:45	420	"	1.742	1.79	1.762	1.76	1.772	1.722	1.76	1.762	75	Ds.
6/28/09	P.M.	Discharge											
	2:00	0	40	1.43	1.45	1.442	1.44	1.44	1.412	1.405	1.40		
	.04	4	"	1.32	1.392	1.34	1.34	1.352	1.337	1.332	1.335		
	.10	10	"	1.305	1.312	1.312	1.31	1.325	1.31	1.31	1.31		
	.20	20	"	1.277	1.285	1.285	1.282	1.292	1.287	1.28	1.28		
	.40	40	"	1.242	1.25	1.25	1.252	1.252	1.247	1.245	1.237		
	1.00	60	"	122	1225	1222	123	1232	123	1215	1218		
	1.00	60	"	104		108		1105		106		84	Temp
	.20	80	"	120	120.2	1202	1217	120	120	120	118		
	.40	100	"	117	119	117	120	118	118	118	1165		
	2.00	120	"	116	1173	1152	1157	117	117	117	116		
	2.00	120	"	1165		117		112		1115		86	Temp
	.20	140	"	116	117	117	118	1157	1167	1157	1157		
	.40	160	"	112	116	117	117	113	113	113	110		

DATE	TIME	MIN	AMPS	482	411	467	468	398	478	479	480	Volt	
	PM												
1/28/69	3:00	180	40	116	113	115	115	111	1022	1.0	1012		
	900	180	"	110		1047		113		1.13		66	Temp
	:10	190	"	1.013	112	1.126	114	110	1.08	1.09	1.09		
	:20	200	"	1.01	110	111	112	107	105	1.06	1012		
	:26	206	"								100		— 137.3
	:30	210	"	1.03	1.08	1.09	1.12	1.045	1.02	1.03	.997		
	:36	216	"						100				— 144.3
	40	220	"	1.01	1.01	1.065	1.06	1.01	.99	1.00	.97		— 146.7
	46	226		1.00				100					— 147.7
	:50	230	"	.997	1.02	1.022	1.00	.97	.95	.96	1.945		— 153.3
	:56	236	"		1.00	100							— 156.
	:58	238	"				.50						— 158.7
	4:00	240	"	.92	.96	.917		.917	.94	.917	.917		
	4:00	240	"	.114			119.		117			87	Temp
	02	242	"							50			— 164
	07	247	"				50						— 164.7
	10	250	"	.70	80			80		80	.77		
	13	253	"	50									— 167.7
	14	254	"		60								— 169.3
	15	255	"					50					— 170.7
	17	257	"							50			— 171.3
	20	260	"								74		
	305	270	"								50		— 180.3
				✓				✓					

DATE	TIME	MIN	AMPS	487	466	467	462	396	475	479	480	Volts	
6/28/09		Charge		148	(151)	160	243		(160)			277	
	PM 455	0	30	1215		1255		1325		1272		82	Temp.
	555	60	"	118		128		125		123		83	"
	655	120	"	112		118		121		120		277	"
	755	180	"	113		114		116		116		282	"
	855	240	"	105		110		112		112		282	"
	955	300	"	104		110		105		111		81	"
	1055	360	"	104		109		110		110		266	"
	1155	420	"	104		109		102		109		860	"
	1255	480	"	172	1200	1227	1237	1227	1692	1222	1205	3470	
6/29/09		Discharge											
	AM 1200	0	40	142	1482	142	1417	1417	1387	1387	1387		
	.04	4	"	132	1332	1332	1327	1245	1323	1324	1327		
	.10	10	"	1297	131	1302	1302	1365	1300	1302	1302		
	.20	20	"	1272	1282	128	128	1272	128	1277	1281		
	.40	40	"	1242	1252	1247	1242	1245	1244	1241	1241		
	1.00	60	"	122	1224	1222	1232	1222	122	1232	1214		
	1.00	60	"	108		114		1132		114		860	Temp.
	.20	80	"	1205	1207	1207	122	120	1202	1197	117		
	.40	100	"	1192	1195	1195	1202	1182	1187	118	1172		
	1.00	120	"	1175	1182	1182	1175	1167	1172	1167	1157		
	1.00	120	"	1105		116		1157		1162		867	Temp.
	.20	140	"	1147	1172	117	118	1152	1147	1152	1141		
	.40	160	"	1132	1147	1147	1164	1144	113	113	1132		

Date	Time	Min.	Mm.	482	466	467	468	398	478	479	480	Temp. Well	
6/29/09	3:00 P.M.	180	40	1.10	1.125	1.122	1.147	1.11	1.09	1.079	1.095	87	Temp.
	3:00	180	"	1.127		1.185		1.172		1.177			133.3
	20	200	"	1.024	1.077	1.08	1.10	1.027	1.017	1.02	1.00		146.7
	1/4	220	"	1.012	1.062	1.07	1.085	1.012	1.00	1.015	.98		148.
	1/2	230	"							1.00			150.
	1/4	235	"	1.00				1.00					153.3
	50	239	"	.974	1.027	1.02	1.00	.967	.945	.962	.945		156.3
	2 1/4	239 1/2	"			1.00							156.7
	50	240	"		1.00		.950						158.3
	2 1/2	241 1/2	"										
	4:00	240	"	.93	.96	.907		.91	.825	.945	.927	87	Temp.
	1.00	240	"	1.15		1.222		1.21	.950	1.217			164.
	.06	240	"			.950							164.3
	.06	240 1/2	"										169.7
	10	243	"	.950									169.3
	1/4	245	"		.950			.950					169.7
	1/2	247 1/2	"							.950			170.3
	15	248 1/2	"										
	.20	260	"								1.155		
	.30	270	"								.950		
	31	271 1/2	"								.950		181.
	32	272	"	1.217		1.215		1.255		1.277		87	

DATE	TIME	MIN.	AIR TEMP.	482	466	467	468	478	477	479	480	Temp. diff.	
6/29/09	P.M.	Charge		114	(127)	161	244		(161)				
	5:45	0	80	1.125		1.26		1.28		1.27		86.7	Temp.
	6:45	60	"	1.14		1.20		1.227		1.217		86.7	"
	7:45	120	"	1.09		1.142		1.17		1.162		86.7	"
	8:45	180	"	1.085		1.117		1.13		1.127		86.5	"
	9:45	240	"	108.5		109.5		110.2		1.102		86.5	"
	10:45	300	"	102.5		108.5		109.		109		86.7	"
	11:45	360	"	102.5		108.5		108.5		108.5		87.2	"
	12:45	420	"	103.2		109.		109		109.		87.5	"
	1:45	480	"	1.72	1.77	1.735	1.742	1.742	1.76	1.73	1.735	P.D.	
				Discharge									
6/29/09	PM												
	12:00	0	40	1.42	1.44	1.43	1.43	1.434	1.40	1.40	1.40		
	:04	4	"	1.32	1.332	1.332	1.33	1.35	1.33	1.33	1.33		
	:10	10	"	1.30	1.312	1.312	1.317	1.32	1.31	1.307	1.31		
	:20	20	"	1.277	1.287	1.282	1.28	1.292	1.287	1.282	1.282		
	:40	40	"	1.242	1.25	1.25	1.252	1.252	1.247	1.245	1.245		
	1:00	60	"	122	1.222	1.222	1.23	132	132	1.217	121		
	1:00	60	"	1.075		112		119		113		88	Temp
	:20	80	"	1.065	1.065	1.065	121	120	120	120	115		
	:40	100	"	1.132	1.192	1.192	1.190	118	1.182	1.182	117		
	2:00	120	"	118	1.182	118	119	117	1.172	1.172	1.157		
	2:00	120	"	113		117		117		119			Temp.
	:20	140	"	116	117	117	115	1.155	1.157	1.157	1.135		
	:40	160	"	1.135	116	116	1.162	114.	112.	113	111		

DATE	TIME	MIN	AMPS	457	462	467	468	378	478	479	480	Cell	
6/29/69	PM 300	150	40	110	114	1125	1125	111	110	110	107		
	300	150	"	114		120		119		120		90	Temp.
	120	200	"	106	111	112	1122	103	1057	1062	100		
	36	210	"	1032	1025	1035	111	105	1025	104	1005		
	92	212	"								100		— 141.3
	324	218½	"						1100				— 145.7
			"										— 146.7
	40	220	"	1025	1022	107	103	1015	997	100	98		— 148.
	42	222	"	100									— 149.3
	44	224	"					100					— 153.
	44½	224½	"				100						
	50	230	"	925	103	1025	917	922	957	926	955		— 155.7
	53½	233½	"			100							— 156.7
	55	235	"		100		50						— 157.3
	56	236	"										
	400	240	"	925	97	90		92	84	92	92		
			"										Temp.
	400	240	"	118		124		1225		124			— 163.
	04½	244½	"			50	✓		50				— 163.7
	05½	245½	"										
	10	250	"	64	92	✓		79		74	82		
			"										— 167.3
	11	251	"	50									— 169.
	13½	253½	"		50			50		50			— 169.3
	14	254	"										— 170.7
	16	256	"								717		
	20	260	"								50		— 178.7
	28	268	"		✓			✓					

Cell #398 was removed from this test and connected up on testing board for over charge tests. See results in individual record book 7/7/69

DATE	TIME	MIN	AMPS	462	466	462	468	478	478	468	Delta	
6/20/09			Charge	150	(160)		162	(	162)			
	PM 455	0	30	124		109				130	.915	/emf.
	555	60	"	113		112				120	92	
	655	120	"	109		116				112	92	
	755	180	"	105		115				112	.922	
	855	240	"	104		110				111	90	
	955	300	"	103		109				110	.887	
	1055	360	"	1027		1087				1092	.89	
	1155	420	"	1017		1085				1087	872	
	1255	480	"	173	1760	1727	1731	1709	1732	1727	T. Trickling	
			Discharge									
6/20/09	PM 12:00	0	40	1167	1172	1117	1382	1387	1382	1328		
	.04	4	"	1315	1322	1305	1322	1322	1322	1320		
	.10	10	"	130	1312	1307	1300	1307	1300	1307		
	.20	20	"	1272	1282	1272	1268	1268	1277	1268		
	.40	40	"	1237	1240	1242	1242	1240	1237	1232		
	1.00	60	"	1217	1222	1222	1220	1215	1212	1207		
	1.00	60	"	1200		1117				1117	965	/emf.
	.20	80	"	120	1205	1202	1215	1177	1174	1187		
	.40	100	"	1187	1192	1187	1202	118	118	1172		
	2.00	120	"	117	118	118	1187	1162	1162	1152		
	2.00	120	"	104		1115				111	84	/emf.
	.20	140	"	115	1167	1160	1172	1142	1142	1120		
	.40	160	"	112	1152	1142	1157	1135	112	1092		

DATE	TIME	MIN	MIN	482	466	467	468	472	477	480	Temp bell	
6/30/07	A.M.	180	40	1.085	1.132	1.125	1.137	1.077	1.087	1.065		
	200	180	"	1.065	1.14					1.12	1.032	Temp.
	.10	190	"	1.065	1.117	1.115	1.125	1.065	1.067	1.032		
	.20	200	"	1.04	1.10	1.097	1.112	1.027	1.044	1.01		
	.23	203	"							1.00		— 135.3
								1.00				— 139.
	.28½	208½	"									
	.30	210	"	1.012	1.08	1.077	1.072	.994	1.012	.984		
	.34	214	"	1.00					1.00			— 142.7
	.39	220	"	.977	1.047	1.044	1.047	.96	.972	.947		— 146.7
	.47	227	"				1.00					— 151.3
	.50	230	"	.927	1.002	1.00	.90	.914	.934	.927		— 153.3
	.51	231	"		1.00							— 154.
	4.4½	234½	"				1.00					— 156.3
	4.00	240	"	.874	.927	.774		.672	.872	.87		
	4.00	240	"	1.037		1.012				1.07	.83	Temp.
	1.03	243½	"				1.00					— 163.3
	.07	244	"				✓					— 162.7
	1.0	250	"	1.00	1.00				1.00	.997		— 166.7
	.12	252	"		1.00	✓			1.00			— 168.
	.13	252½	"									— 169.
	2.0	260	"		✓					.62		
	.24	264	"							4.0		— 176.7

DATE	TIME	MIN	AM PM	482	466	467	468	478	479	480	Dell	
6/20/09	Charge			101		103			103			
	A.M.											
	4:00	0	30	109		117				117	82	Lamp
	5:00	60	"	1.08		114				1.02	82	"
	6:00	120	"	1.037		110				1.02	82	"
	7:00	180	"	101		1.06				107	82	"
	8:00	240	"	98		104				104	81.7	"
	9:00	300	"	97.5		103.				103	81.5	"
	10:00	360	"	97.5		102.2				102.5	81.2	"
	11:00	420	"	98		103.				103	81.2	"
	11:55	520	"	1.75	1.79	1.752	1.762	1.73	1.76	1.76		Last Reading
				Discharge								
	PM											
6/20/09	12:00	0	40	1.43	1.44	1.442	1.43	1.405	1.407	1.40		
	04	4	"	1.34	1.337	1.337	1.34	1.332	1.342	1.342		
	10	10	"	1.30	1.31	1.31	1.30	1.305	1.305	1.305		
	20	20	"	1.272	1.255	1.28	1.28	1.28	1.277	1.275		
	40	40	"	1.24	1.25	1.245	1.25	1.237	1.237	1.235		
	1.00	60	"	1.217	1.222	1.22	1.222	1.217	1.212	1.21		
	1.00	60	"	102.5		108			106.5		822	Temp
	20	80	"	1.202	1.205	1.205	1.212	1.197	1.193	1.192		
	40	100	"	1.185	1.192	1.19	1.202	1.18	1.177	1.16		
	2.00	120	"	1.17	1.182	1.18	1.192	1.17	1.165	1.15		
	2.20	120	"	105	116	110			109		827	Temp.
	20	140	"	1.16	1.125	1.18	1.18	1.152	1.15	1.195		
	40	160	"	1.137	1.16	1.16	1.16	1.15	1.13	1.172		

DATE	TIME	MIN	AMPS	482	466	467	468	478	477	480	Bell	
6/30/07	PM 3:00	180	90	110	114	1135	1146	109	116	1057		
	3:00	180	"	108		1127			115		85	Temp
	:20	200	"	1047	116	118	112	104	105	100		133.3
	30	210	"	102	108	103	110	1005	105	98		
	31	211						100				140.7
	34	214	"						100			142.7
	35	215		100								143.3
	40	220	"	9955	105	1055	107	97	98	96		
	50	230	"	942	1005	1022	100	935	937	92		153.3
	51	231			100	100						154.
	57	237	"				50					158.
	400	240	"	90	94	97		80	90	90		
	400	240	"	112		1175			104			Temp.
	05	245	"			50						163.3
	06	246	"				✓	50				164.3
	10	250	"	57	73				72	92		
	10½	250½	"	80								167.
	13	253	"		50	✓						169.7
	15	255	"						50			170
	20	260	"							64		
	25	265	"							50		176.7
					✓							

DATE	TIME	MIN.	AMP.	482	466	467	468	478	479	480	Volts	
	Charge #			152	(162)	164		(164)				
6/30/09	A.M. 455	0		111		122			121		.865	Temp.
	555	60		114		118			119		.865	"
	655	120		109		114			115		.87	"
	755	180		105		125			135		.88	"
	855	240		106		111			112		.88	"
	955	300		104		110			110		.87	"
	1055	360		102		105			105		.87	"
	1155	420		1012		108			1077		.84	"
	1158	420		174	1777	174	1742	172	174	174		Mr. D. Harding
7/1/09	A.M.	Discharge										
	1200	0	40	1412	1427	142	1414	1372	1387	1.38		
	04	4	"	1322	1337	1334	1332	1.33	1.33	1.332		
	10	10	"	130	131	131	1305	1304	1307	1307		
	20	20	"	1272	1285	128	1277	128	1277	1.28		
	40	40	"	124	1245	1247	124	1247	124	1.245		
	100	60	"	1217	1222	122	1227	1215	1215	1207		
	100	60	"	102		1092			109		82	Temp.
	20	80	"	120	1202	120	1202	1197	1195	1185		
	40	100	"	1187	1192	1192	1202	1192	118	1147		
	200	120	"	117	118	118	1187	1167	1162	1147		
	200	120	"	103		1097			1095		81	Temp.
	20	140	"	1145	1167	1167	1175	1145	1144	112		
	40	160	"	112	1152	1147	1147	112	112	1087		

DATE	TIME	MIN	HITS	482	466	467	468	478	479	480	Coll.	Temp.
7/1/09	P.M.											
	3.00	180	40	1.085	1.122	1.127	1.14	1.080	1.092	1.082		
	3.00	180	"	1.027		1.107			1.027		80	Temp.
	.10	190	"	1.062	1.117	1.115	1.127	1.100	1.107	1.025		
	.20	200	"	1.04	1.10	1.095	1.11	1.03	1.04	1.00		133.3
	.30	210	"	1.017	1.08	1.075	1.092	1.00	1.012	0.98		140.
	.30½	210½	"	1.00					1.00			142.3
	.34	214	"									142.7
	.40	220	"	.977	1.055	1.04	1.065	.967	.977	.945		150.7
	.46	226	"				1.00					153.3
	.50	230	"	.925	1.00	1.00	.967	.925	.934	.92		154.3
	.50½	230½	"		1.00		.950					
	4.00	240	"	.877	.934	.867		.842	.87	.872		
	4.00	240	"	1.075		1.14			1.137		80	Temp.
	.05	245	"			.980						163.7
	.07½	247½	"				✓	.980				165.
	.10	250	"	.89	.64				.905	.81		
	.11	251	"	.980								167.7
	.14½	254½	"		.980				.980			169.7
	.16	256	"									170.7
	.20	260	"							1.065		
										.980		178.
	27	267	"									
	27	267	"	1.107		1.187			1.162		79.7	Temp.
					✓	✓						

DATE	TIME	MINS	AMPS	482	466	467	468	478	477	480	Volts	
											Temp	
7/1/09	Charge			1.03	(1.63)	1.64			(1.65)			
	AM											
	6:00	0	100	1.10		1.182			1.17		.79	Temp.
	6:30	60	"	1.072		1.147			1.147		.79	"
	6:40	120	"	1.01		1.072			1.082		.78	"
	7:00	180	"	9.72		1.032			1.045		.78.2	"
	8:00	240	"	9.67		1.027			1.03		79.5	"
	9:00	300	"	98		103			1.035		81.7	"
	10:00	360	"	99.2		1.037			1.04		83.5	"
	11:00	420	"	101		106			1.065		85	"
	11:05	420	"	1.74	1.785	1.75	1.76	1.72	1.752	1.752		T.D. Reading
				Discharge								
7/1/09	PM											
	12:00	0	40	1.42	1.44	1.437	1.42	1.40	1.405	1.40		
	04	4	"	1.32	1.332	1.332	1.33	1.33	1.33	1.33		
	10	10	"	1.302	1.312	1.32	1.31	1.31	1.31	1.31		
	20	20	"	1.272	1.272	1.277	1.277	1.277	1.275	1.272		
	40	40	"	1.24	1.25	1.247	1.25	1.24	1.24	1.237		
	1.00	60	"	1.222	1.222	1.222	1.23	1.22	1.217	1.21		
	1.00	60	"	1.16		1.18			1.205		86.7	Temp.
	20	80	"	1.202	1.205	1.205	1.212	1.20	1.16	1.185		
	40	100	"	1.192	1.195	1.185	1.205	1.19	1.18	1.17		
	2.00	120	"	1.12	1.182	1.182	1.192	1.18	1.17	1.165		
	3.00	120	"	1.09		1.12			1.13		83.3	Temp.
	30	140	"	1.16	1.162	1.162	1.17	1.157	1.155	1.157		
	40	160	"	1.14	1.15	1.15	1.167	1.14	1.137	1.11		

DATE	TIME	MIN	AMPS	402	404	407	462	472	472	450	Volt.	
7/1/09	PM 300	156	40	111	1145	1145	1165	1165	111	1082		
	300	160	"	1165		114			115		.885	Temp
	20	200	"	1057	1105	1105	112	1165	1653	160		
	27	207	"							100		138.
	30	210	"	105	108	108	110	112	1022	947		
	34	214	"					100				142.7
	34½	214½	"						1.00			144.3
	38½	218½	"	100								145.7
	46	226	"	993	1055	166	1075	982	99	965		152.7
	49	229	"				100					
	50	230	"	957	1005	161	93	942	947	937		153.7
	50½	230½	"		100	100						157.3
	52	232	"	908			50					
	400	240	"	865	926	895		84	90	91		
	400	240	"	116		121	✓		120		.88	Temp
	04½	244½	"			50						163.
	06	246	"					50				164.
	09	249	"	58								166.
	10	250	"		62	✓			67	84		
	11	251	"		50							167.3
	13	253	"						50			168.7
	30	260	"		✓					66		
	34	264	"							50		176.

Cells 404, 498 were connected in Endurance Section after this discharge for 50 mins.

DATE	TIME	MIN	AM/PM	462	466	467	463	472	479	480	404	1182	Delta	
7/1/09		Charge #		154	(164)	166			(166)		180	130		
	PM 455	0	"	120	125				126		135	88	897	Temp
	555	60	"	1125	1215				122		130	99	905	"
	655	120	"	114	119				119		105	101	917	"
	755	180	"	111	116				116		107	105	927	"
	855	240	"	108	114				114		116	103	93	"
	955	300	"	107	112				1115		112	111	932	"
	1055	366	"	107	112				1109		114	112	93	"
	1155	426	"	107	113				113		1152	1121	93	"
	1150	420		1145	1142	1142	1142	1142	1142	1142	1152	1092		C. W.
7/2/09		Discharge												
	A.M. 1200	0	"	1305	1302	1302	1297	1297	1302	1302	1307	136		
	04	4	"	132	1322	132	1322	1322	1324	1327	1327	132		
	10	10	"	1292	1300	130	1292	1297	1297	130	1254	129		
	20	20	"	1272	1282	1282	1277	1272	1272	1280	1258	1272		
	40	40	"	124	125	1247	125	125½	124	124	1247	124		
	100	60	"	122	1222	122	1227	1227	1215	1214	122	1212		
	100	60	"	110		1122			116		120	1180	920	Temp
	20	80	"	1202	1205	1205	1215	1220	1197	1193	1205	1197		
	40	100	"	1182	1185	1192	1200	1182	1182	1174	1195	118		
	200	120	"	1172	118	118	1187	117	1169	116	1185	1172		
	200	120	"	1190		1196			117		1237	122	915	Temp
	20	140	"	115	1157	1162	1172	115	115	1137	1172	1157		
	40	160	"	112	1155	1147	1155	112	1125	1127	1155	114		

DATE	TIME	MIN	MHZ	482	466	467	468	478	479	480	404	488	TEMP HOLE
7/2/09	19.7 3.00	1.80	.40	1.09	1.132	1.127	1.14	1.09	1.097	1.067	1.14	1.127	
	3.00	1.80	"	1.107		1.19			1.18		1.26	1.234	90 Temp
	.10	1.90	"	1.072	1.12	1.112	1.127	1.067	1.08	1.047	1.125	1.114	
	.20	2.00	"	1.042	1.10	1.097	1.112	1.04	1.042	1.032	1.107	1.10	
	.30	2.10	"	1.02	1.082	1.082	1.097	1.04 / 1.00	1.027	1.002 / 1.00	1.09	1.084	
	33	2.13	"										142.
	36	2.16	"					1.00					144.
	38	2.18	"	1.00									145.3
	40	2.20	"	.99	1.065	1.07	1.06 / 1.00	.98	.992	.98	1.067	1.062	151.7
	42½	2.22½	"				.880	.94	.944	.904	1.047	1.03	153.3
	45	2.30	"	.982	1.045	1.00							155.3
	46.3	2.23	"		1.00								
	47½	2.23½	"				.880					1.00	156.3
	50½	2.24½	"									.747	157.
	4.00	2.40	"	.874	.924	.71		.742	.883	.910	1.012		
	4.00	2.40	"	1.124		1.227 / .880	✓		1.21		1.297 / 1.00	1.30	89 Temp
	.03	2.43	"										162.
	.05	2.45	"					.880					163.3
	.07	2.47	"	.880									166
	.10	2.50	"		.66				.677	.884	.977	.724	
	11½	2.51½	"		.880	✓							167.7
	13½	2.53½	"						.880			.880	169.3
	14½	2.54½	"										169.3
	.20	2.60	"							.69 / .880	.802		
	.26½	2.66½	"		✓								177.7
	.30	2.70	"								.767 / .880		183.7
	30½	2.70½	"										
											✓	✓	

Cells 466, 467, 468, were removed from this test and connected with loop on testing for overcharge tests. See results on individual record book 7/7/09.

DATE	TIME	MIN	AMT	482	478	479	48-404	488	160	181	131		
7/2/09	AM	Charge											
	5 AM	0	50	119			127		133	131	87.7	Temp	
	5 AM	60	"	1132			120		128	127	86.5	"	
	6 AM	120	"	1047			1132		121	118	84.7	"	
	7 AM	180	"	1022			1077		118	116	84	"	
	8 AM	240	"	1015			1072		114	113.7	84	"	
	9 AM	300	"	100.5			1055		113.5	112.5	84.5	"	
	10 AM	360	"	101.5			105		113.	111.5	84.7	"	
	11 AM	420	"	101.			1055		113.	112.	85	"	
	11 AM	420	"	1.122	1.117		1.132	1.117	1.117	1.115		T. D. Reading	
				Discharge									
7/2/09	PM 12:00	0	40	1.41	1.40		1.405	1.39	1.39	1.377			
	04	4	"	1.32	1.325		1.33	1.33	1.33	1.317			
	10	10	"	1.29	1.30		1.30	1.30	1.302	1.30			
	20	20	"	1.28	1.292		1.292	1.287	1.285	1.28			
	40	40	"	1.24	1.237		1.24	1.24	1.242	1.232			
	1:00	60	"	1.222	1.22		1.22	1.215	1.22	1.215			
	1:00	60	"	102			110		117	115.5	86.5	Temp.	
	1:20	80	"	120	120		1.130	1.127	120	119			
	40	100	"	119	1.155		118	113	1.132	1.123			
	3:00	120	"	1.175	1.17		1.167	1.15	1.17	1.165			
	3:00	120	"	108.5			113.		121.	119.5	87.5	Temp.	
	20	140	"	1.155	1.16		1.157	1.137	1.155	1.155			
	40	160	"	113	1.113		1.127	1.09	1.14	1.132			

DATE	TIME	MIN	AMPS	452	478	479	480	404	488	TEMP Adds	
7/2/09	PM 3.00	180	40	1.09	1.08	1.09	1.045	1.105	1.102		
	3.00	180	"	111		111		125	122	88	Temp.
	20	200	"	1042	163	104	1.005 100	107	1072		— 134.
	21	201	"								— 139.
	28½	2028	"		100						
	30	210	"	101	99½	1.005 100	98	104	1.097		— 140.7
	31	211	"								— 142.3
	32½	2132	"	100							
	40	220	"	92	96.5	9.65	95	100	1012 100		— 146.7
	43	223	"								— 148.7
	50	230	"	937	92	925	917	95	9.45		
	4.00	240	"	78	54	82	825	81	837		
	4.00	240	"	115		120		130	127	88.6	Temp.
	01	241	"		50						— 160.7
	02	242	"						50		— 161.3
	04	2444	"	50							— 163.
	08	248	"			50					— 165.3
	16	250	"				62	50			— 166.7
	19	254	"				50				— 169.3
								✓	✓		

DATE	TIME	MIN	AMPS	482	478	479	480	404	488	Volts	
7/2/09	Charge #			156		(1680)		182	132		
	PM 555	0	30	119		1245		122	130	852	Tenf.
	655	60	"	112		1162		125	133	90	"
	755	120	"	115		1155		124	132	905	"
	855	180	"	109		114		121	130	907	"
	955	240	"	1045		110		118	127	90	"
	1055	300	"	102		109		116	115	89	"
	1155	360	"	102		1082		116	1147	89	"
	9/7 1255	420	"	1022		1087		116	1145	882	"
7/2/09	1255	420	"	174	1726	1746	1717	172	1712		P. 13
7/2/09	A.M.	Discharge									
	1.00	0	40	1407	1407	1400	1387	1387	1377		
	.04	4	"	132	1327	1330	1324	1322	1325		
	.10	10	"	130	1307	131	1312	131	1305		
	.20	20	"	1275	128	1282	1282	128	1275		
	40	40	"	124	1242	1242	1242	1242	1237		
	2.00	60	"	1217	1215	1215	1212	1217	121		
	2.00	60	"	1052		1145		1192	1172	872	Tenf.
	.20	80	"	1202	120	1197	1192	120	1195		
	40	100	"	1192	1185	1182	1172	1187	1177		
	3.00	120	"	1175	117	1167	1165	1175	1162		
	3.00	120	"	1025		1117		121	1182	872	Tenf.
	.20	140	"	1132	1145	1145	1127	1147	1144		
	.40	160	"	1127	1127	1127	1087	114	1127		

Section was not put on @ 4.55 PM by mistake but went on @ 5.55 PM and will charge 7 hrs until 12.55 AM 7/3/09

DATE	TIME	MIN	AMT	482	478	479	480	404	488	Delta	
	AM										
7/2/09	4.00	180	40	1.092	1.024	1.072	1.06	1.117	1.104		
	4.00	180	"	1.024		111		1.217	118	.082	Temp
	.10	190	"	1.067	1.064	1.074	1.038	1.097	1.084		
	.20	200	"	1.047	1.044	1.087	1.017	1.085	1.077		
	.28	208					100				
	.30	210	"	1.017	1.015	1.024	.994	1.057	1.052		— 138.7
	.36	216	"		600						— 144.
	.37	217	"	1.00							— 144.7
	38½	218½	"			1.00					— 145.7
	.42	222	"	98	977	987	967	1.02	1.02		
	.47	227	"					100	100		— 151.3
	.50	230	"	9.4	94	942	937	974	974		
	500	240	"	877	845	894	89	884	862		
	500	240	"	1.022		1.127		1.232	1.184	.802	Temp
	08	248	"		55						— 165.3
	09	249	"						50		— 166.
	1.10	250	"	617		742	77	614			
	1.11½	251½	"	40				50			— 167.7
	1.15½	255	"			50					— 170.
	.20	260	"				55½				
	.20½	260½	"				50				— 173.7
								✓	✓		

DATE	TIME	MIN	AMPS	482	478	477	480	404	488	Volts	
7/2/09				(167)		(169)		183	133		
	A.M. 6.30	0	20	104		116.2		120	123.2	87	Temp.
	6.30	60	"	102		112		122	117	77.2	"
	7.30	120	"	100		109.7		117.5	113.7	79.5	"
	8.30	180	"	96		105		111.5	107.2	80	"
	9.30	240	"	96		101.5		110.	105.5	80.5	"
	10.30	300	"	95		100		108.5	107	80	"
	11.30	360	"	96		100.5		109	107.5	80	"
	P.M. 12.30	420	"	101		101		109	107	80.5	"
	12.30	420	"	126.7	124	126		124	114.7	73.35	T. D. Harding

Stood idle 59½ hrs over Saturday
Sunday & Monday charged.
Discharge

7/6	A.M.										
	12.00	0	40	127	127	126.5	125	123.5	123.7		
	12.10	0		132		127		126.5	127	82	Temp
	.04	4	"	122.5	123	122.5	122.5	121	120		
	.10	10	"	121.5	121	120.5	120	119.7	119		
	.20	20	"	119.7	119.5	119.5	119.7	119.5	117		
	.40	40	"	118.2	117.7	117	117.7	116	115		
	1.00	60	"	117	116	115	113.5	114.2	113.5		
	1.00	60	"	90.7		92		90.7	90.5	80.7	Temp
	.20	80	"	116	115	114.2	116.7	113.7	112.2		
	.40	100	"	114.2	113.7	113	119	112.2	111		
	2.00	120	"	112	111.7	111.5	113.5	111	109.5		

DATE	TIME	MIN V	MIN 2	482	488	477	488	404	448	10	
7/1/-1	2:00										Temp
	AM										
	2:03	1:30	42	94		97	102	95.5	97	73.5	
	1:21	1:45	"	109	108.5	108.5	111	109	112		- 96.7
	1:25	1:45	"				110				
	1:30	1:50	"	107	107	107.5	95.5	108	106		
	1:45	1:50	"	107.7	107	107.7	97	106.5	109.2		
	1:51	1:52	"	109	110	109	95.5	109	109		- 116.3
	2:00	1:55	"		110				108		- 118.7
	2:01	1:55	"	100		100					
	2:03	1:3	"	99.7	97.2	99	92	101	98		
	3:03	1:53	"	99		102.5		105	102	76.5	Temp
	3:05	1:55	"					100			- 128.3
	3:10	1:53	"	96	95.5	95.5	87.7	97.7	99		
	3:20	2:01	"	92	92	93.2	85.2	95.2	97		
	3:30	2:03	"	88	87.5	87.5	81	87	88		
	4:00	2:20	"	81	79	81.7	74	78.2	78.5		- 152.3
	4:45	2:21	"		53			50	50		- 153.3
	5:00	2:21	"	50		50.5	62				- 157.
	5:45	2:21	"			50	50				
	6:00	2:21	"	105		108		116	107.7	78	Temp
					✓	✓	✓	✓	✓		

DATE	TIME	MOON	AIR	472	477	479	480	484	485	486	
7/1/09	[illegible]	[illegible]	"	158		170		184	134		
	4:55	[illegible]	50	[illegible]		[illegible]		1195	1047	1022	
	[illegible]	[illegible]	"	103		105		1122	1107	276	
	6:[illegible]	[illegible]	"	985		1025		1102	1087	285	
	7:[illegible]	[illegible]	"	964		101		1080	1067	285	
	8:[illegible]	[illegible]	"	947		987		107	1052	278	
	9:[illegible]	[illegible]	"	95		992		107	1052	279	
	10:[illegible]	[illegible]	"	942		997		107	1055	80	
	11	[illegible]	"	96		1040		1077	1052	8	
	12:[illegible]	[illegible]	"	126	122	128	126	126	122		
7/4/09	P.M.		Discharge								
	12:00	0	50	143	143	143	1425	1417	140		
	.04	4	"	132	1322	132	1322	132	132		
	.10	10	"	1394	130	1302	1307	1307	1302		
	.20	20	"	1272	128	128	128	128	1275		
	.40	40	"	1327	124	124	124	1242	1237		
	1.00	60	"	1215	121	1212	121	1212	121		
	1.00	60	"	995		105		111	107	817	
	20	80	"	1197	119	119	1185	1192	1187		
	40	100	"	1182	118	118	1172	1182	117		
	2:00	120	"	1172	117	117	1157	117	1157		
	2:00	120	"	1012		1025		1075	1055	822	
	20	140	"	1122	115	1142	1142	1132	1137		
	40	160	"	112	112	112	110	1127	1117		

Temp

"

"

"

"

"

P. 10

DATE	TIME	MIN	AMPS	482	478	479	480	484	488	Bolts
7/4/09	3:00	180	4/0	1.094	1.097	1.10	1.072	1.112	1.092	
	3:00	180	"	1.082		110		1.075	1.092	1.820
	.20	200	"	1.047	1.052	1.06	1.022	1.072	1.065	
	.34	214	"				1.00			
	.34	214	"	1.002	1.004	1.014	.992	1.027	1.027	
	39½	219½	"	1.00						
	.36	216	"		1.00	1.00				
	39½	219½	"							
	.40	220	"	.98	.982	.992	.972	1.000	1.007	
	.41	221	"					1.00		
	.42	222	"						1.00	
	.50	230	"	.940	.947	.947	.95	.942	.97	
	1.00	240	"	.962	.90	.92	.922	.905	.98	
	1.00	240	"	1.04		113		121	1.125	
	.10	250	"	.75	.68	.80	.78	.76	.79	
	.11	251	"		.50					
	.12	252	"	.50						
	.13	253	"					.50		
	.14	254	"						.50	
	.30	270	"			.77	.76			
	27½	262½				.80				
	.30	270					.89			
	.32	272			✓		.80			
						✓	✓	✓	✓	

Temp

- 142.7
- 143.7
- 144.
- 146.3
- 147.3
- 148.

Temp

- 167.3
- 169.
- 170.3
- 170.7
- 175.7
- 181.3

DATE	TIME	MIN	AMPS	482	475	479	480	404	483	Bell	
				*		*		*	*		
7/6/09	Recharge			109		171		184	134		
	4 AM	0	50	104		114		122	112	82	Temp.
		60	"	104		112		122	118	81.2	
	6 AM	120	"	94		106		116	112	80	
	7 AM	180	"	96		103		112	116	75.5	
	8 AM	240	"	93		101.5		111	103	79	
	9 AM	300	"	93.5		99		107	112	79	
	10 AM	360	"	93		99		106	106	78	
	11 AM	420	"	94		100		104	104.2	78	
	12 M	423	"	177	176.5	179	176.5	176.2	175.5		D.D.
				Discharge							
7/7	AM										
	12.00	0	40	142	142	142.2	137.7	141	139		
	.04	4	"	131.7	132	133	133	133	132.4		
	.10	10	"	130	130.5	131	131	131	131.5		
	.20	20	"	127	128	128	128	128	128		
	.40	40	"	127.7	127	127	127	127	127.7		
	1.00	60	"	121.5	121.5	121	121	121.5	121		
	1.00	60	"	97.2		113		110.7	109.7	77.7	Temp.
	.20	80	"	120	119.7	119.5	119	119.7	119		
	.40	100	"	119	118.5	118.2	117.7	118.5	117.7		
	2.00	120	"	117.7	117	117	116	117	116		
	2.00	120	"	100		105		113.5	112.5	78	Temp.
	.20	140	"	115.7	115.7	115	115.7	115.5	115.2		
	.40	160	"	113	113	113	113.2	113	113		

DATE	TIME	MIN	AMPS	482	478	479	480	404	403	Jelli	
7/7/09	AM 3.00	180	40	109.7	110.2	110	107	111	110		
	3.00	180	"	109.2		109.2		117.5	105.5		
	.25	200	"	104	105	104.5	101	105.5	105.5		
	.29	209	"				100				
	.33	210	"	101.7	102.5	102.2	99	102	102		
	.37	217	"	101							
	.38	218	"		100	100					
	.75	225	"	98.5	99	99	98	101	101		
	.41	221	"					100	100		
	.50	230	"	95	95.5	95.5	97.7	97	97		
	4:00	240	"	91	91	91	91.5	88	91.5		
	4.00	240	"	108.5		108.2		125.5	121	60	
	.10	250	"	75	58	84	72	60	76		
	.15	255	"		50						
	.16	256	"					60			
	.25	260	"	50		71.7	60		55		
	.20	260	"						50		
	.26	265	"			58					
	.29	273	"				60.7				
	.33	273	"				50				
	.33	273	"		✓	✓		129	123.7	60	
							✓				

Temp

— 139.3

— 145.

— 145.7

— 147.7

Temp

— 170.

— 170.7

— 173.3

— 173.7

— 176.7

— 182.3

Temp

DATE	TIME	MIN	AMPS	472	472	473	470	404	484	DEG	
7/7/09	6 hours			118	(172)			181	132		
	4.55 AM	0	30	110		116.7		122	124.5	80.5	Temp.
	5.25	60	"	106.7		112.7		122.7	122	80.5	"
	6.55	120	"	102.7		109		117.7	116	80.5	"
	7.55	180	"	98.7		105.7		115.5	114	80	"
	8.55	240	"	96.7		102.5		111.7	110.7	79.5	"
	9.55	300	"	95.7		100.7		109.7	108.7	79.2	"
	10.55	360	"	95.5		100.2		109	108	79.5	"
	11.55	420	"	96.7		101.5		109	108	79.5	"
	11.55	420	"	96.2	176	128.5	124	124.5	124.7		T.D.
7/7/09	Afternoon			Discharge							
	12.00	0	40	140	140	140	139	132	128.2		
	.04	4	"	132	132.7	133	132.5	132	132.7		
	.10	10	"	130	130.5	130.7	131.2	131	130.7		
	.20	20	"	128.5	128	128	128.2	128	127.7		
	.40	40	"	124	124.2	124.5	124.2	124.2	124.7		
	1.00	60	"	121.5	121.5	121.5	121.2	121.5	121.5		
	1.00	60	"	180		164		110	111	80	
	.20	80	"	122	120	119.7	119.2	119.5	118.7		
	.40	100	"	119.7	118.7	118.2	117.7	118.2	117.2		
	2.00	120	"	117	117.2	117	116.7	116.5	116.5		
	2.00	120	"	102		102		113.7	113.7	79.7	
	.24	144	"	115.5	115.5	115.2	115.2	115.2	115.7		
	.40	160	"	115.5	115.7	115.3	115.	115.2	115.2		

DATE	TIME	MIN	AMPS	482	478	479	480	407	488	IDLE	
	MIN.										
7/7/09	3.00	180	40	1.07	1.02	1.10	1.07	1.10	1.09		
	3.00	180	"	104.5		109.		117.7	1.16	80.5	Temp.
	.20	200	"	1.07	1.02	1.06	1.022	1.02	1.04		— 139.3
	.27	207	"				1.00				
	.30	210	"	1.02	1.024	1.03	9.97	1.032	1.03		— 145.7
	.38	218½	"					1.00			
	.39	219	"	1.00		1.00			1.00		— 146.
	.40	220	"	.994	1.00	.99	.972	.992	.994		— 146.7
	.50	220	"	.96	.962	.964	.947	.942	.940		
	1.00	240	"	.912	.907	.91	.912	.86	.877		
	1.00	240	"	1.08		1.12		1.22	1.192	80.7	Temp.
	.10	250	"	.672	.62	.822	.842	.550	.686		
	.15	255	"					.550			— 167.3
	.15½	255½	"		.550						— 168.3
	.17	257	"	.550					.550		— 169.3
	.20	260	"			.552	.682				
	.20	260½	"			.550					— 173.7
	.28	268	"				.550				— 178.7
	.28	268	"	1.12	1.17			1.30	1.247	80.7	Temp.
					✓	✓	✓				

Cells 551, 552, 568, 569 were connected in Endurance Section after this discharge for 25 runs.

DATE	TIME	MIN	AMPS	482	551	552	568	569	478	479	480	404	487	TEMP Jobe	
	Charge			161	(71)		(71)			(73)		187	137		
7/7/09	PM 4.55	0	30	111.5	80.7		80.7			107.2		129.5	125.7	81.	Temp
	5.55	60	"	109	87		81			115		124	122	81.5	"
	6.55	120	"	105	92		92			111		121	119	82	"
	7.55	180	"	102	94		95			107		112	116	82	"
	8.55	240	"	100	96		97			107		115	115	82	"
	9.55	300	"	100	97		98			105		110	113	82	"
	10.55	360	"	98.5	98.5		99			107		112	111	81.5	"
	11.55	420	"	97.5	99.5		100			102.7		111.5	110.5	80.5	"
	11.55	420	"	171	175.7	172	172.2	174	172.2	174	172.5	174	174		P. 10
				Discharge											
7/8	AM 12.00	0	40	142	147	142	142	142	142	141	140	140	139.2		
	.04	4	"	132	133	132.5	133	133	133	133	132.5	133	132.5		
	.10	10	"	130	130.5	130.2	130.5	130.5	131	130.2	131	130.5	132.2		
	.20	20	"	127.5	128	127.5	128	128	128	128	128	128	128		
	.40	40	"	124	124.5	124.2	124.2	125	124.5	124	124	124	123.7		
	1.00	60	"	122	123	122.5	123	123	122.2	122	121.7	121.7	121		
	1.00	60	"	101.5	103.5		104			106		112	113	80	Temp
	.20	80	"	120.5	121	121	121	121.5	120	120	119.7	119.7	119		
	.40	100	"	119.5	120	119.7	120	120.2	119.5	119.2	118	118	117.7		
	2.00	120	"	118	119	118.5	119	119.5	118	118.5	116	117	115.7		
	2.00	120	"	122	105		106			117		116	115	79.2	Temp
	.20	140	"	116	117	116.5	117.5	118	116	115.7	118	115	114		
	.40	160	"	114	115.7	115	116	116	114.2	113.7	114	113	112		

DATE	TIME	MIN	AMPS	482	551	552	568	567	478	479	480	484	438	TEMP other	
7/8/09	2:00	120	40	110.5	114	113	113.7	114.2	111.7	110.5	113.7	113.2	109		
	2:00	180	"	113.7	113.2		113.7			112.8		113.7	111.7	74.7	Temp
	.20	190	"								113.7		113.7		
	.20	200	"	106	111.5	113	111	112.7	113.7	106.2	113.5	106	105.7		
	.20	210	"	102	110	108.2	109	110.2	109.5	103	100	103	102.2		— 140
	.40	220	"	103.7	108.5	106.5	107.5	103	102	100	95	103	103		— 146.7
	.40	225	"	100					100						
	.40	230	"						97		95	97.7	95.7		— 151.
	.40	235	"	96.2	102.2	104	104.5	103	97	96					
	2:50	240	"			102	100				91	89	89		— 159.
	2:50	245	"	94.5	102	97	99	104	102	91		125.2	121.2	76.5	Temp
	4:00	260	"	111.5	110		111.5			111.7					
	4:00	270	"		100										— 165.7
	4:00	280	"	82.2	92	91.5	88	100	71.2	84	65	53	66		— 166.7
	4:00	285	"						50				53		— 169.3
	4:00	290	"				50								— 169.7
	4:00	295	"			50									— 170.
	4:00	300	"	50											— 170.3
	4:20	320	"		82.2			70		54	7				
	4:20	325	"			✓				50					
	4:20	330	"					50							— 174.3
	4:20	335	"		50										— 176.3
	4:20	340	"								53				— 178.3
	4:20	345	"												— 179.7
	4:20	350	"	111.7	114.5		114			111.7		120.5	123	76.2	Temp
					✓		✓	✓	✓	✓	✓				

Calls 478, 479, 480 were removed from this test and connected up on starting board for overcharge tests. See results in individual record book. 7/12/09.

DATE	TIME	MIN	AMPS	492	551	552	568	567	404	488	TEMP	
				"	(52)		(72)		"	134		
7/8/09	no charge			102								
	4:55	0	20	110.5	112.2		112		125	122.7	78	Temp.
	5:55	60	"	106.2	107.5		107.7		119.5	119.5	77.7	"
	6:55	120	"	105	107.7		105		113.5	114	77.5	"
	7:55	180	"	98.7	101.7		102.7		107.2	112	77.7	"
	8:55	240	"	98	100.5		101.2		106.7	109	78	"
	9:55	300	"	97.7	100.		101		100.5	107.7	78.7	"
	10:55	360	"	97.5	101.		102.		107.	107.7	80	"
	11:55	420	"	100.7	102.7		104		107.2	108.8	80	"
	12:55	480	"	102	102.2	102.	102.2	102.7	107	102.2		P. 80.
7/8/09	Pm.		Discharge									
	12:00	0	40	1.42	1.42	1.415	1.407	1.40	1.37	1.387		
	.04	4	"	1.335	1.332	1.325	1.327	1.327	1.332	1.33		
	.10	10	"	1.305	1.307	1.305	1.307	1.307	1.31	1.31		
	.20	20	"	1.28	1.282	1.28	1.282	1.28	1.28	1.28		
	.42	42	"	1.24	1.243	1.24	1.242	1.24	1.24	1.237		
	1.00	60	"	1.22	1.225	1.222	1.225	1.227	1.21	1.21		
	1.00	60	"	105.5	108.5		108.		111.	112.5	82.	Temp.
	.20	80	"	1.21	1.21	1.212	1.212	1.207	1.194	1.19		
	.42	102	"	1.20	1.20	1.197	1.20	1.20	1.18	1.17		
	2.00	120	"	1.183	1.185	1.18	1.185	1.185	1.167	1.16		
	2.00	120	"	1.125	109.		111		114	115		
	.20	140	"	1.162	1.17	1.16	1.17	1.17	1.144	1.147		
	.40	160	"	1.144	1.147	1.142	1.144	1.142	1.13	1.17		

DATE	TIME	CHIM	AMTS	482	482	482	468	467	404	488	Temp	
7/8/09	AM. 3.00	180	40	1116	1125	112	1135	1105	110	109		
	3.0	180	"	111	114		1145		1125	118	82	Temp
	.20	200	"	1072	111	1085	1105	111	105	1087		
	30	210	"	1041	1095	1025	1082	109	1017 / 100	102		
	35	215	"							100		— 143.3
	36½	216½	"									— 144.3
	40	220	"	107	1085	1125	106	107	97	985		
	43½	223½	"	100								— 148.7
	50	230	"	98	105	100	102 / 100	105	92	95		— 153.3
	54	234	"									— 156.
	400	240	"	826	1005	86	90	100	80	88		— 160.
	400	240	"	115	110 / 100		121		125	123		Temp
	08½	248½	"									— 160.3
	46½	246½	"			50	50					— 164.3
	170	250	"	125	90			84	50	66 / 50		— 166.7
	12½	252½	"	50								— 169.3
	13½	253½	"					50				— 169.7
	16	256	"									— 170.7
	17½	257½	"		50							— 173.
						✓	✓	✓				
					✓							

DATE	TIME	MIN	AMPS	462	551	552	563	569	464	466	Dell	
7/8/09	Charge #			103	(13)		(13)		129	139		
	455 PM	0		118.5	120		121		126	126	4.61	Temp
	555	60		115	116.5		118.5		123	124	872	
	655	120		111	113.5		114		117	121	81	
	755	180		108	111		112.5		112	119	98	
	855	240		106	109		111		113	114	88	
	955	300		103	107		109		111	114	97	
	1055	360		102	106		108		109	112.5	86	
	1155	420		101.5	105.2		107		109	111.5	89.5	
	1155	420		176	174	172	173	173.5	177.7	175		G. D.
			Discharge									
7/9	12:00	0	40	143	143.5	142.2	141	141	142.5	139.7		
	:04	4	"	133	133	132.5	132.5	132.5	133.5	133		
	:10	10	"	131	131	130.7	131	131	131.5	128.5		
	:20	20	"	128	128	127.7	128	128	128	128		
	:30	30	"	125.5	125.7	125	125.7	125.5	125	125		
	1:00	60	"	122.2	122.5	122.2	123	122.5	122.5	122.5		
	1:00	60	"	114	109.2		109.7		111	114	1.73	Temp
	:20	80	"	121	121	121.2	121.5	121	119.7	119.5		
	:40	100	"	122.2	121	119	120.7	120.5	118.5	117.5		
	2:00	120	"	118.5	118.5	118	118.7	118.7	118	117		
	2:00	120	"	115	110		111.2		112.7	111	1.2	Temp
	:20	140	"	117	117	116	117.5	117.5	116	115		
	:40	160	"	115	115.5	114	115.7	116	113	112.2		

DATE	TIME	MIN	AMPS	442	551	552	564	564	404	44	12.6	
7/9/19	AM 3.00	160	40	112	113.5	112	113.5	114	111	110		
	3.20	160	"	105.5	110.5		111.5		113	116	61	
	.20	220	"	107.7	113.5	112.7	113	111	107	106		
	.30	210	"	109	108.2	109.7	107.7	108.4	113	112.7		
	.40	220	"	112	117	113	105.7	107.4	120	110		
	.45	225	"			120						
	.50	225	"	100								
	.55	235	"	98	114	92	111	105	95.5	92.2		
	.56	235	"				100					
	.58	235	"		120							
	4.00	245	"	92.7	99	89	76.5	100	87.2	79.5		
	4.05	255	"	106.5	112		114		105	115.5	717	
	.06	255	"			50						
	.07	255	"					50				
	.15	255	"	82	83		78.2		62	76		
	.16	255	"						50			
	.17	255	"					50				
	.18	255	"							50		
	.19	255	"	50								
	.20	255	"		50							
	.17	255	"	109	114.5		119		117.5	119.7	77	
					✓	✓	✓	✓				

- 7.00 p
- 146.7
- 149.7
- 151.
- 154.7
- 158.7
- 160.
- 7.00 p
- 161.3
- 162.3
- 168.7
- 169.7
- 170.
- 170.7
- 171.3

DATE	TIME	MIN	AM PM	482	551	552	562	579	414	448	DIE	
7/9/09				"124	(74)		(74)	"190	"140			
		Change										
	4.55	0	30	102	1122		1125		1147	1152	75	Temp.
	5.55	60	"	101	1045		1.0		1142	113	75	"
	6.55	120	"	99.5	112.		1037		1052	111.2	77.5	"
	7.55	180	"	96	100		1017		1054	108	77.5	"
	8.55	240	"	94	98.4		100.2		103	106	77.7	"
	9.55	300	"	94	97.2		99.		102.	104.5	77.5	"
	10.55	360	"	94	98		100		102.7	104.4	77.7	"
	11.55	420	"	96.5	99.4		101		104.4	103.7	78.8	"
	11.55	420	"	178	176	1737	174	1727	1792	1772		T.B.
7/9/09			Dive Change									
	1.00	0	40	1.43	1432	1422	1422	1417	142	1412		
	.04	4	"	1.33	1332	133	133	133	133	1324		
	.10	10	"	1302	131	1302	1307	1304	131	131		
	.20	20	"	1.28	1287	1282	1284	1282	1284	1284		
	.40	40	"	1.24	1252	1245	1245	1245	1245	1245		
	1.00	60	"	1.22	123	1217	1225	1225	1217	1215		
	1.00	60	"	1.15	1145		1.1		1.08	110	79.7	Temp
	.20	80	"	121	1212	121	1.22	121	1.17	1.12		
	.40	100	"	1.197	1.20	1.195	1.20	1.20	1.185	1.177		
	2.00	120	"	1.195	1.187	1.18	1.187	1.197	1.17	1.16		
	2.00	120	"	104	108.		108.2		1.10	113.	81.	Temp
	.20	140	"	1.155	1.17	1.16	1.175	1.175	1.155	1.14		
	.40	160	"	1.142	1.155	1.14	1.155	1.155	1.135	1.12		

DATE	TIME	MIN	ANP	462	551	552	564	529	404	408	Dil	
	PM											
1/3/09	300	180	90	1115	1135	1117	1135	1132	1135	1109		
	300	180	"	1025	111		1115	..	1135	112	812	Temp
	50	200	"	167	1105	102	110	1102	106	105		
	30	210	"	164	159	166	108	103	1025	1022		
	50	216	"						100			— 144.
	315	216								100		— 144.3
	40	220	"	1012	107	[illegible]	[illegible]	107	98	99		
	45½	220½	"	1002								— 148.3
	45	225				100						— 150.
	50	230	"	977	1000	957	1.7	1141	935	955		— 153.3
	55½	235½			100			100				— 159.
	400	240	"	927	997	79	70	955	55	90		
	402	240	"	109	114		116		107	117	812	Temp
	02	242	"			50	50					— 161.3
	10	250	"	18	87			81	62	257		
	12	252	"						50			— 168.
	32	252½	"	50								— 169.
	142	254½	"					50				— 169.7
	15	255	"							50		— 170.
	18	256	"		50							— 172.
						V	V	V				
					V							

DATE	TIME	MIN.	AMPS	482	551	552	566	569	404	488	Dis
7/7/09			Charge	165	(75)		(75)	131	141		
	PM. 455	0	30	111	115		116		120	121	
	555	60	"	1087	1087		109		1105	1165	80
	655	120	"	101	104		1045		110	112	78
	755	180	"	95	101		102		101	109	78
	855	240	"	95	99		100		108	107	77
	955	300	"	94	98		99		103	105	75
	1055	360	"	94	98		99		103	105	
	1155	420	"	95	98.5		99.2		102.2	105	75
	155	420	"	174	177	174.2	176.5	177	181	175	
					Discharge						
7/10	AM 12.00	0	40	144	141	143	142	142	141	140	
	.04	4	"	133	133.7	133	133	133	134	134	
	.10	10	"	131	131.7	131	131.5	131	131.7	131.7	
	.20	20	"	121	122.2	121	121	121	121.5	121	
	.40	40	"	125	125.7	125	125.7	125.5	125	125	
	1.00	60	"	123	123.5	123	123.5	123	123	122	
	1.00	60	"	985	1047		103		105.7	105.2	75
	.20	80	"	121.5	121.7	121.7	122	121.7	122	120	
	.40	100	"	120.2	120.5	120	121	120.5	119	118.2	
	2.00	120	"	119	119	118.5	119.5	119	117.7	116.5	
	2.00	120	"	100	103.5				107	110	
	.20	140	"	117	117.5	116.5	117	117	116	115	
	.40	160	"	115.5	116	115	116.2	116.2	114.5	113.5	

Temp
"
"
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P. 10
Temp
"
Temp

DATE	TIME	MIN.	AMPS	463	551	607	568	564	404	468	Rd.
7/[illegible]	[illegible]	[illegible]	40	112	114	112.2	114	114	112	112.5	
	3.00	[illegible]	"	112	105.5		106.5		109	111.75	[illegible]
	[illegible]	[illegible]	"	108.2	110.7	109.7	111	111.7	108	107	
	[illegible]	[illegible]	"	[illegible]	[illegible]	[illegible]	117	108	[illegible]	[illegible]	
	[illegible]	[illegible]	"	[illegible]	[illegible]	[illegible]	[illegible]	102	97.5	98	— 150.
	[illegible]	[illegible]	"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	— 153.3.
	4.00	[illegible]	"	95	[illegible]	92	97	[illegible]	90.	92.	— 157.
	[illegible]	[illegible]	"	[illegible]	[illegible]	[illegible]	[illegible]	100	[illegible]	105	— 160.
	[illegible]	[illegible]	"	93.2	97.4	[illegible]	677	98	83	[illegible]	— 165.3
	[illegible]	[illegible]	"			50	50				— 168.
	[illegible]	[illegible]	"								— 169.3.
	[illegible]	[illegible]	"	69	54			77	58	67.7	— 173.3
	[illegible]	[illegible]	"	50	-						— 175.7
	[illegible]	[illegible]	"					50		50	— 176.7
	[illegible]	[illegible]	"	109	50 / 112		115		115	115.75	— 177.7
					✓	✓	✓	✓			

DATE	TIME	MIN	AMPS	482	551	557	566	569	404	461		
	Charge			116	(76)		(76)		132	142		
7/10/09	AM 455	0	30	105	110		110.5		119	120.5	71	Temp
	555	60	"	"	1055		107			117	72	"
	655	120	"	"	112		104		"	113	73	"
	755	180	"	94.5	107.2		105		104.5	107	74	"
	855	240	"	92	95		96		101	103.5	73	"
	955	300	"	94.5	97.2		94.5		98.5	102	74	"
	1055	360	"	97.2	98.7		95.5		99.2	101.7	74	"
	1155	420	"	115.5	117.5	124.5	127	127	130	128.2		P.W
	1155	420	"	92	95		107		100	102	75	Temp

Stood idle 36 hours over Saturday & Sunday charged.

Discharge

7/12/09	AM 12.00	0	40	131	127	128	128	127.7	128	127		Temp
	12.00	0	"	84	84		87		87	87	73	Temp
	.04	4	"	124.2	123.7	123	123	123.5	123.5	123.5		
	.10	10	"	123	122.2	122	122.2	122.5	122	121		
	.20	20	"	121.7	120.5	120	121	120.5	120	119.7		
	.40	40	"	120	119.7	119	119.7	119.7	118	117.7		
	1.00	60	"	119	118.5	118	118.5	118.5	117	116		
	1.00	60	"	92.2	92.7		92		92.7	93	82	
	.20	80	"	118	117.7	117	118	118	116	117.5		
	.40	100	"	117	116.2	115.7	117	117	115	115.5		

DATE	TIME	MM	DATA	482	581	582	584	589	604	484	12	
7/12/77	2.00	120	45	115	114.5	103	115	115	103	111.5		
	2.00	120	"	97	99.5		101		99	101	115	Zero 6
	1.20	140	"	113	113.5	112	113	114	111.5	103.7		
	.40	160	"	109	113.5	109	111	111	106.2	105.5		
	.20	170	"							105.5		
3	.00	180	"	105.5	115	106	108	108	104	101		
	3.00	180	"	102	104.5		105.2		105	106.2	45	Zero 6
	.20	185	"							100		— 123.3
	.40	190	"	103	110	104.5	106.7	107	101	95		
	.50½	192½	"						100			— 129.
	.50	195½	"									— 133.3
	.50	200½	"	100	105.5	102	106	105.5	96.2	96.7		— 137.7
	.50	210	"			100						
	.50	215	"	96	102.5	97.5	100.5	103	91.7	92		
	.50	220	"				100					— 141.3
	.50	222	"	91.5	100	87.7	90	100	85.5	88.2		— 146.7
	.50	225	"			50						— 150.
	.50½	227½	"									— 151.3
	.50	230	"	84	91		50		69.5	80.2		— 153.3
	.50½	232½	"						50			
	.50	237	"					50				— 159.3
	4.00	240	"	50	67					50		— 160.
	.01	241	"	107	112.5		110		112	115	100	50 — 160.7
	.03	243	"		50							— 162.
				✓								

DATE	TIME	MIN.	MAX.	482	551	552	554	556	604	741	[illegible]	
7/17/11		Discharge		117	(77)		(77)		193	147		
	[illegible]	[illegible]	20	104.5	104			106	111	110	79	Temp
	[illegible]	[illegible]	"	102.5	102				109	109.7	71	"
	[illegible]	[illegible]	"	100.7	101.2				107	108.5	77	"
	7 [illegible]	[illegible]	"	98.2	100				106	108	77	"
	6 [illegible]	6:45	"	96	99				103	105.5	75	"
	9:25	9:50	"	96	98.5				103	105	85	"
	[illegible]	[illegible]	"	96	96.5				103	105	81	"
	[illegible]	[illegible]	"	97.5	100.5				104	106	81	"
	[illegible]	[illegible]	"	174.5	174	172	175	175	176.5	174.5		(P. 10)
				Discharge								
7/12/09	PM 12:00	0	40	143	143.2	142.2	142	141.5	142	141.2		
	:04	4	"	133.2	133	133.7	133	133	133.2	133.2		
	:10	10	"	131.2	131	131.5	130.7	131	131	131		
	:20	20	"	127.5	128	127.7	128	128	128	128		
	:40	40	"	124.5	125	124.7	125	125	125	124.5	124.2	
	1:00	60	"	122.2	122.5	122.2	122.7	122.5	122.5	122.5	122	
	1:00	80	"	121.7	121		121		108.5	110	83	Temp
	:20	80	"	120.7	121	120.7	121.2	121.1	119.7	119.2		
	:40	100	"	119.5	119.5	119.2	120	119.5	118.5	119.5		
	2:00	120	"	118	118.2	118.5	118.7	118.5	117	117.2		
	2:00	120	"	106	109.7		110		112	113.5	84	Temp
	:20	140	"	116	116.5	116	117	117	117	117.2		
	:40	160	"	115	116	114	115	115	115	115.5		

DATE	TIME	MIN	AMPS	482	551	552	568	569	404	488	TEMP Cells	
7/12/09	PM 3.00	180	40	110	113	111	113	112	110	109		
	3.00	180	"	103	114				114	117	85	Temp.
	.22	200	"	105	110	107	1095	1095	1035	1025		
	.28	208	"						100			— 139.
	.29	209	"							100		— 139.3
	.30	210	"	1017	113	104	107	1072	91	957		
	.33	213	"	100								— 142.3
	.37	217	"			100						— 144.7
	.40	220	"	98	1050	93	1025	105	94	96		
	.43	223	"				100					— 148.7
	.50	230	"	92	100	84	68	100	85	91		— 153.3
	.52	232				50						— 155.
	.53	233	"				50					— 155.3
	400	240	"	76	96	"		81	66	80		
	.01	241	"	114	119				120	122	86	Temp.
	.02	242	"	50					50			— 160.7
	.02	242						50				— 161.7
	.03	243	"							50		— 163.3
	.09	249	"		50							— 165.8
			"									
			"	✓								

Cells 466, 467, 468 were connected in Endurance Section after this discharge for 50 runs.

DATE	TIME	MIN	AMB	482	051	602	562	564	446	427	481	404	488	Bell	
		Charge	7165		(78)		(79)		(171)		170	194	144		
7/12/69	PM 455	0	30	114	117		116			875		122	122	86	TEMP
	505	60	"	108	107		111			872		117.5	117.5	86.2	"
	605	120	"	104.5	104.5		107			866		114	114.5	86.2	"
	705	180	"	102.5	102		102			867		113	112.5	86.2	"
	805	240	"	102	104.5		105			867.2		112	111.5	87	"
	905	300	"	100.5	104		100.5			861.2		111.5	111.5	86.5	"
	1005	360	"	100.5	104.5		100.5			104		112	111.5	86.2	"
	1105	420	"	111	104.5		106			105		113	112	86	"
	1155	420	"	175	172	171	173	172	179	177	170.2	127.5	174.2	TBD.	
		Discharge													
7/12	AM 12:00	0	40	143	142	143	144.5	144.5	142.5	142	142	133.5	134.2		
	.04	4	"	133	132.5	133	133	132.5	134	134	134	133.5	133		
	.10	10	"	131	131.5	130.5	131	131.5	132	132	132.5	131.5	131.5		
	.20	20	"	128	128.2	128	128.2	128.2	129	128.5	128.5	128.5	128.2		
	.40	40	"	125	125.5	125	125.5	125.5	124	125.5	125	125	125		
	1.00	60	"	123	123	123	123.5	123.5	122.5	123.5	123.2	122.2	122		
	1.00	60	"	104	108		109			104		105.5	105	84.5	Temp
	.20	80	"	121.5	121.5	121	121.5	122	121.5	121.5	122	120.2	120		"
	.40	100	"	120	120	120	120.5	120.5	120.2	121	122	119.5	119.2		
	2.00	120	"	119	119	118	119	119.5	119.5	120	121	118	117		
	2.00	121	"	105	110		110.5			109.2		118	116.5	83	Temp.
	.20	140	"	117	117	116	117.5	118	118.2	118.5	121	116.5	116		
	.40	160	"	115	115	114	115.5	116	117	117.5	118.2	115	115		

DATE	TIME	MIN	AMP	482	551	552	568	569	466	467	40	404	488	IDLE	
7/13/99	AM 3.00	110	40	112	113.5	111.5	113.7	114	115.7	116	117	112	110.2		
	3.00	180	"	106	111.7	…	112.5	…		111.5		121.5	118.5	82.2	Temps
	.20	200	"	108	111	108	110.5	111.5	113	114	115	108	106.2		
	.30	210	"	105.5	109	106	108.5	111	111	112.2	114	105	103.5		
	.40	220	"	102	107	102.2	105.5	107.5	108.2	110.2	112	100.2	100		— 146.7
	.41	222	"									100			— 148.
	.44	224	"			110									— 149.3
	.45½	225½	"	100											— 150.3
	.50	230	"	96.2	114.2	93.5	110	105	106	108	110	95	96		— 153.3
	4.00	240	"	93	100	56	60	100	112.2	105	107	106.5	90.5		— 160.
	4.00	240	"	110	117.5		117.5			114		120.7	121	82	Temps
	.01	241	"			50	50								— 160.7
	.01½	241½	"												— 161.
	.05	245	"						100						— 163.3
	.10	250	"	79.2	84			72	98	101	102	57	73		— 168.
	.12	252	"					50		100	100	50			— 169.
	.13½	253½	"	50											— 170.
	.15	255	"										50		— 170.7
	.16	256	"		50										— 172.
	.18	258	"												
	.20	260	"						90.2	92	56				— 174.
	.21	261	"								50				
	.30	270	"						78	[illegible]					— 181.
	.31½	271½	"	✓						50					— 183.3
	.35	275	"						50		✓				
	.35	275	"	105.5	124		121.5		✓	118		133	127	82.2	Temps
										✓					

| DATE | TIME | [illegible] | [illegible] | [illegible]

DATE	TIME	ELIN	PULSE	482	544	552	468	569	466	462	412	404	488	DOLE TEMP
7/2/09	PM 300	180	4/0	1124	1127	111	1132	1134	1114	1147	1144	1101	1077	
	300	180	"	1124	1129		1127			1144		1248	1212	882 Temp.
	20	205	"	108	116	102	110	111	1115	112	1105	106	105	
	30	210	"	105	102	105	105	1[illegible]	1085	110	[illegible]	102	101	
	34	214	"									100	100	— 142.7
	38½	218½	"									100		— 143.7
	40	220	"	102	104	101	105	104	106	108	109	97	975	
	41	221	"			100								— 147.3
	41	221	"	100										— 150.7
	48½	228½	"				100							— 152.3
	50	230	"	92	101	97	91	1036	1025	105	1095	90	925	
	52	232	"		100									— 154.7
	53	233	"					100						— 156.7
	53½	233½	"						100		100			— 157.
	57½	237½	"			50					"			— 158.3
	400	240	"	118	123		124			121		100	105	89 Temp.
	400	240	"	93	90		50	90	98	100	92	98	93	— 160.
	03	243	"								50	50		— 162.
	03½	243½	"					50						— 162.3
	07	247	"											— 164.7
	08	248	"										50	— 165.3
	08½	248½	"		50									— 166.7
	10	250	"	50					87	82				— 170.
	15	255	"						56	50				— 173.7
	28½	268½	"											
				✓					✓	✓	✓			

DATE	TIME	MIN	7/1/12	482	481	482-2	468	467	466	467	468	484	488	DELETEMP
7/2/09				170		(181)	7/180		(173)		175	196	146	
	PM 4:00	0	20	123	122		125			125		132	137	90 Temp.
	5:00	60	"	117.2	122		117.7			117.7		131	122.2	90.2 "
	6:00	120	"	114.2	112.5		117.7			117.7		128.2	122.2	90.7 "
	7:00	180	"	111.7	110		116.2			116.2		124.5	122.7	90.5 "
	8:00	240	"	109.5	112.5		113.7			113.5		121.5	122.2	89.7 "
	9:00	300	"	108	111		112			111.7		120.2	118.2	89 "
	10:00	360	"	107	108.7		111			111		119	117	87.7 "
	11:00	420	"	107	109.5		110.7			111		118.5	116.7	87
	11:00	420	"	123.5	121	120	121.7	120.2	123.7	123.7	122.2	122	122.5	T.D.
7/14/09	7:47			Recovery										
	12:00	0	10	133	132.5	132	131	132.2	132	134	133.5	139	138	
	.04	4	"	133	133	132.2	132.5	133		133.7	133.7	135	133	
	.10	10	"	131	131	131.5	131	131	132	132.5	131	131	131.5	
	.20	20	"	128.5	128.2	128	128.2	128.2	128.5	129	128.5	128.2	128.2	
	.40	40	"	125	125	124.5	125	125	125.7	125	125.7	125.5	124.2	
	1.00	60	"	123	122.5	122.2	123	123	123	123	124	122	122.7	
	1.00	60	"	119.2	118.5		119.7			119.7		121	119.5	87 Temp
	.20	80	"	121.5	121	120.7	121.5	121.5	121.5	121.5	122.5	122.7	121	
	.40	100	"	120	119.7	119	120	120	120	120.2	121	116.5	115	
	2.00	120	"	118.5	116		117			116		116.5	123.5	87
	2.00	120	"	118.5	117.7	117.5	118.5	118.5	119	119	119.5	117.7	116.2	
	.20	140	"	117	116	115.5	117	117	117	118	118.5	116.5	114.5	
	.40	160	"	114	114	112.2	115	115	116.2	116.2	117	113	112	

DATE	TIME	MIN	AMP	482	551	552	564	565	566	567	568	483	488	1066	
7/14/09	3:00	100	4.5	111	111	109.5	112	112	113.5	113.5	112	112	109.2		
	3:00	120	"	113	120.5		121.5			118		120.5	120.5	87	Temp.
	1:00	120	"	109.5	127.5	106.7	109.7	118.7	112.2	112.7	111	117	115.5		
	1:30	210	"	102.5	126.2	102.7	106.2	117.6	109.7	110.7	1.5	1.5	122.5		
	1:45	225	"	102	125	97	108.5	116	117	112	1.5	1.5	120		— 146.7
							108								— 148.7
	1:45	225	"	100											— 149.
	1:45	225	"												— 149.7
	1:50	225	"	95.5	121	70	91	101	114	99.5	1.5	91	95.5		
	1:50	225	"		97.7			101			1.5				— 155.
						50									— 155.3
	1:53	225	"				50								— 157.3
	1:55	225	"												— 159.
	1:55	225	"							100					— 160.
	4:00	240	"	92.5	70.2		64		95.5	100	1.5	61	85.5		
	4:00	240	"	114.7	125		126			120		125	127	87	Temp.
	1:00	240	"			50		50							— 162.
	1:05	240	"										50		— 162.3
	1:05	240	"												— 166.3
	1:05	240	"	65					79	87.7					
	1:05	240	"	50						50					— 168.3
	1:07	240	"												— 171.3
	1:07	240	"						64						
	1:25	240	"						50						— 175.3
	1:25	240	"												
	1:25	240	"	117.7	127		126.2			125.5		126.5	122	86.5	Temp.
				✓					V	✓	✓				

Cell 482 was removed from this test and connected up on Testing Board for over-charge tests.
See results in individual record-book
7/14/09

DATE	TIME	MIN	AMB	551	552	564	569	466	467	468	426	497		IDLE TEMP	
7/4/09	Charge			(*81)		(*81)		(*174)		172	*197				
	AM 4:25	0	30	119.7		120			120		124	120.7	84.2	Temp	
	5:55	60	"	114.5		115			114.5		122	122	86	"	
	6:25	120	"	108.5		110.5			110		123	122	86	"	
	7:25	180	"	106		108			108		119	119.5	85.7	"	
	8:25	240	"	105		107			106		117	111	85.7	"	
	9:25	300	"	103		106			105		115	114	86	"	
	10:25	360	"	104		106			106		114	115	85.2	"	
	11:25	420	"	104.5		107			107		115	114	86.7	"	
	12:25	480	"	172	172	173.2	172	172.7	173.2	172	173.2	173.5		C. W	
				Discharge											
7/4/09	PM 12:00	0	40	143	142.5	142	141.7	143.2	143	142.2	140.2	139.5			
	:04	4	"	139.2	139.2	138.2	138	139.5	139.2	139	139.2	138.5			
	:10	10	"	138.5	138.2	138	138	139.2	138	138.2	138.2	138			
	:20	20	"	128.2	128	128.2	128.2	128	128.5	128	128	128.5			
	:40	40	"	125	124.7	125	125	125	125	125.2	124.5	124.5			
	1:00	60	"	122.5	122	122.5	122.7	122.7	122.7	122.2	121.5	121.2			
	1:00	60	"	109		111			111	1	118	117	87	Temp	
	:20	80	"	121	120.5	121.2	121.2	121	121	122	120	119			
	:40	100	"	120	119.2	120.2	120.5	120.5	120.5	121.2	119.7	118			
	2:00	120	"	118.5	118	119	119	119	119	120	119.2	116			
	2:00	120	"	112.5		114			113		120		87	Temp	
	:20	140	"	117	116	117	116.5	118	118.2	119	118.5	116.7			
	:40	160	"	115	113	115.5	115.5	116.5	117	117	118	116			

DATE	TIME	MIN	AMTS	551	552	563	564	466	467	468	469
8/17/37	2 PM 300	150	40	1105	110	1135	1135	1145	115	115.5	110
	300	160	"	1105			116		117		126
	130	200	"	1098	107	1162	1162	1112	112	113	1062
	130	210	"	102	103	102	102	1096	100	111	1015
	595	215	"								
	55	215	"								100
	96	215	"		100						
	96	220	"	164	97	164	105	106	102	102	97
	95	220	"			100					
	97	227	"	100							
	58	230	"	96	98	82	100	162	104	100	86
	574	230	"			80					
	63	233	"					100			
	57	237	"						100	86	
	572	237	"								
	59	237	"								50
	400	240	"	93	50		60	96	99		
	400	240	"	177		125	50		122		133
	612	240	"								
	63	245	"	50							
	612	245	"								
	18	250	"					89	46		
	18	251	"						80		
	175	257	½ "					50			
								✓	✓	✓	

1128	DLETEMP
109	
199	89 Temp
105	
131	
100	— 142.3
	— 143.3
	— 144.
96	
	— 150.
	— 151.3
92	
	— 153.3
	— 155.
	— 155.3
	— 158.
	— 158.3
	— 159.3
98	— 160.
129	Temp
	— 161.
	— 162.
50	— 163.
	— 167.3
	— 171.7

DATE	TIME PM	MIN	ANTS	551	552	568	569	466	467	468	484	488	ID	LETTER NO
	Charge				(82)		(82)		(175)	177	198	148		
7/14/09	4.55	0	30	112		120			121		134	139	80	Temp
	5.55	60	"	127		114			116.5		128	124	87.2	"
	6.55	120	"	107.2		110.2			114		123.5	121.5	88.4	"
	7.55	180	"	104.2		108			108		120	118.7	88	"
	8.55	240	"	103.2		107.5			108		118	117.2	88.2	"
	9.55	300	"	103.5		107.5			107		117	116	88.2	"
	10.55	360	"	103.7		107.2			107.5		116	116.2	87.7	"
	11.55	420	"	104		102.5			107.7		115.7	114.7	87	"
	11.55	420	"	173	171	173	171.7	178	172.5	172.2	172.7	172.7		T.D.
	Discharge													
7/15	AM 12.00	0	40	143.7	142.5	142.5	141	142	142.2	140.5	139	139		
	.04	4	"	133	133	133	133	134	134	132.7	133.7	133		
	.10	10	"	130.5	129.7	131	131	134.7	131	130.5	131	131		
	.20	20	"	128.5	128.2	129	128.5	129.5	129	128.5	128.5	128		
	.40	40	"	127.5	127.5	127.7	127.7	128	127.7	128	127.5	127		
	1.00	60	"	123	123	123.5	123.5	123	123	124	122	122.7		
	1.00	60	"	108.5		111			110.5		111.5	112	76.5	Temp
	.20	80	"	121.5	121	121.7	121.7	121.7	121.5	122.5	122	119.7		
	.40	100	"	120	119.5	120.2	120.2	120.2	120.5	121	119.2	116		
	2.00	120	"	117.2	117.7	119	119	119.7	119.5	120	117	115		
	2.00	120	"	110.7		113.5			113		121.7	120.5	80.5	Temp
	.20	140	"	117	116	117.7	117.7	117	116	117.5	115.5	117.2		
	.40	160	"	115	113.5	116	115.7	117	116.5	117	113	112		

DATE	TIME	MIN	AMPS	V	#468	#467	#466	#467	#468	#84	#488	HA	LETTER
7/15/67	3:00	160	43	112.5	112.5	112.5	113	115	115	115	110.2	119	
	3:00	180	"	114		116.7			115.7		124	132	35.5 Temp's
	.20	200	"	109.7	107	110	110	112	112	113	105.2	132	
	.40	220	"	107.2	109	108	107.2	109.7	112	111	103	130	
	.57½	237½	"										— 143.
	.58	238	"								100		— 144.
	.58	238	"		98.5								— 145.3
	.40	240	"	104.5	98	104.2	105	107	107.7	108	98	98	
	.42	242	"			100							— 150.
	.45	245	"	100									— 152.3
	.50	250	"	99	98.2	99.2	100.2	103.5	104.5	101	89	95	
	.55	255	"				102			102			— 154.3
	.57	257	"		80								— 156.7
	.57½	257½	"			80		100					— 158.3
	.59	259	"						100	50			— 159.3
	4:00	260	"	84			79	98.5	99.5		60	62	
	4:00	260	"	116.5		120.7			117		130	137	45.5 Temp's
	.01½	261½	"								50		— 161.
	.02	262	"				50						— 162.
	.06	266	"	50								60	— 164
	.09½	269½	"										— 164.3
	.10	270	"					98.5	77				
	.12½	272½	"						50				— 168.3
	.15	275	"					64.2					
	.20	280	"					50					— 175.3
	.23	283	"	124		124.2			122		124.5	132.5	Temp's
								V	V				

DATE	TIME	MIN	AMB	561	562	568	569	466	467	468	407	488	IDLE TEMP	
7/15/09		Charge		(83)		(83)			(176)	178	199	149		
	AM 4.55	0	30	119.5		120			120.5		130	122.5	.5	Temp
	5.55	60	"	111		113			114		122.7	124	84.75	"
	6.55	120	"	108		110			110		121.7	120	84.5	"
	7.55	180	"	104		106.5			107		118.2	117.7	85	"
	8.55	240		102.5		105.			105.		115.	114.7	85.	"
	9.55	300		102		104			104.5		114	113.5	85.5	"
	10.55	360		102		104			104		113	112	86.	"
	11.55	420		103		104.5			105		112	111.5	86.5	"
	11.55	[illegible]		173	1712	1782	1715	1727	1757	173	1742	1737		P. W.
						Discharge								
7/15/09	PM 1200	0	40	143	1422	1422	1417	143	143	1422	1405	1397		
	04	4	"	132	132	1.32	1325	1332	133	133	133	1327		
	10	10	"	1305	1362	1365	1307	1312	1312	1307	131	1307		
	20	20	"	128	1277	128	128	1287	1282	128	128	1277		
	.40	40	"	125	1247	125	125	125	126	1.262	1242	1247		
	1.00	60	"	1227	1225	123	123	1225	1222	1232	1217	1212		
	1.00	60	"	108.2		116.2			108.5		109.2	115.5	87	Temp
	.20	80	"	121	1205	1212	1212	121	121	122	1195	1187		
	.40	100	"	1195	119	120	120	120	120	1207	118	1172		
	2.00	120	"	1182	1175	1185	1187	119	1195	1195	1165	1157		
	2.00	120	"	111		1122			1112		118.2	118	88	Temp
	.20	140	"	1165	1155	1172	117	118	118	1182	115	1135		
	.40	160	"	114	1122	115	1147	116	116	1162	112	1105		

DATE	TIME	MIN	PRESSURE	562	568	569	466	467	468	404	458	I-D	LETTER	TEMP
7/14/09	PM 3:00	180	4	1122	110	113	1127	1142	1142	1077	1082	BOX		Temp
	3:00	180	"	1124		115		114		123	1205			
	3:20	200	"	1092	1062	110	1092	1112	1117	1122	1095 / 1037			
	3:30	210	"	1072	104	1077	1075	1092	110	1107	1102 / 1003			
	3:30 1/2	210 1/2	"							100			—	142.3
	3:35 1/2	215 1/2	"							100			—	143.7
	4:00	220	"	1095	100	1095 / 100	1095	1061	1095	108	975	97	—	146.7
	4:17	237	"										—	151.3
	4:19	229	"	100									—	152.7
	4:50	230	"	.992	8895	962	1007 / 100	1027	1095	1021	.887	922	—	154.3
	4:51 1/2	231 1/2	"										—	154.7
	4:52	232	"							100			—	157.
	4:54 1/2	234 1/2	"										—	157.7
	4:56 1/2	236 1/2	"		1095								—	159.
	4:58 1/2	238 1/2	"			1095			100				—	159.7
	4:59 1/2	239 1/2	"							1095				
	5:00	240	"	842			8295	972	987		624	8095		
	5:00	240	"	1182		121			1177		129 / 1095	1237	BOX	Temp
	0:2	242	"										—	161.3
	0:5	245	"										—	163.3
	0:6	246	"			1095						1095	—	164.7
	0:7	247	"										—	165.
	0:7 1/2	247 1/2	"	1095										
	1:00	250	"				862	775					—	168.7
	1:3	253	"					1095					—	172.3
	1:8 1/2	258 1/2	"				1095							

DATE	TIME. MIN		AMB551	502	508	569	466	467	468	464	465		
7/12/03	Charge (84)				(84)			(117)	119	204	145		
	4:00	0	177		172			172		122	124	87	Temp.
	5:00	60	127		127			127		122	121	87	"
	6:00	120	061		08			088		118	118	86	"
	7:00	180	038		04			04		1.05	1.04	84	"
	8:00	240	01.5		02.2			032		122	122	84	"
	9:00	300	01		03			03		112	117	84	"
	10:00	360	02.2		04.2			04.7		12.5	12.2	86	"
	11:00	420	102		105.5			106		12.5	12.5	86	"
	11:58	420	174	172	174	172.5	178	177	122.5	12.5	12.5		P.D.
	Discharge												
7/14	12:00	0	143	142.2	142	141	142	142.5	141	135.5	135.5		
	.04	4	132	132	133	133.5	134	133	133.5	132.5	132.5		
	.10	10	131.5	131	131.5	131.7	132	132	132.5	131.7	131.7		
	.20	20	128.5	128.2	128.5	128.5	129.5	129	128.5	128.5	128.5		
	.40	40	125.5	125.5	125.7	125.7	126	125.7	126	125.5	125.5		
	1.00	60	123	123	123.5	123.7	123.7	123.5	124	122	122.7		
	1.00	60	109		110			110		116.7	116	82	Temp
	1.20	80	121.5	121	121.7	121.7	121.7	121.5	122	120	119.7		
	1.40	100	120	120	120.5	120.2	120.2	120.5	121	119.5	119		
	2.00	120	116.5	116	119	119	119.5	119.5	120	117	116		
	2.00	120	116.5		113			113		120	120	87	Temp
	1.20	140	117.5	116.5	118	118	118.5	118.2	119	116	115		
	1.40	160	114.5	113	115	115	116.2	116.2	117	113.7	115		

DATE	TIME																
					551	552	553	554	555	556	557	558	559				
7/10/15	AM 2.00	120	110	113	110.5	112.5	113	115	115	115	110	109					
	3.00	120	"	114.7		116			115.2		122	121.5		57	7.0		
	12.00	7.00	"	110	107	110	110	112	112	113	105.5	109					
	1.00	7.11	"	107.7	109	109.7	109.7	111	110	111	112	111					
	1.55	7.15	"									122					
	.30	7.16	"								100						
	.40	7.23	"	105	105	1.45	105	107	108	106.5	99.5	98					
	.50	7.24	"			109											
	1.00	7.25	"	111	105	97.5	105	104	105	104	96.5	92.5					
	1.03	7.28	"	110													
	.04	7.29	"				110			110							
	.09	7.34	"		50			110									
	.09	7.34	"			50											
9.00	7.47	"	117				87	94.2	100	55	66	85.5					
9.05	7.47	"	116.5		121				116		122	122		57.5	7.0		
.05	7.47	"								50							
.05	7.47	"									50						
.07	7.47	"					50										
.09	7.49	"		50									50				
.09	7.49	"						91	85								
.12	7.52	"							50								
.15	7.55	"															
.21	8.01	"						62.5									
.21	8.01	"						50									
.21	8.01	"	126.5		125.5				123		127	127		57.5	7.0		

- 143.3
- 144.
- 146.7
- 152.
- 155.7
- 156.
- 159.3
- 159.7
- 160.
- 160.3
- 162.3
- 164.7
- 166.
- 166.3
- 170.
- 176.

DATE	Time	Min	Min.	551	556	562	569	466	467	468	470			
7/15/1		Gas Charge		(°75)		(°75)		(°76)		1.0	2.01			
	AM 4.55	0	00	118		114			1185		123	116	87	Temp
	5.00	10	"	112.5		113.5			115		120	119	86.2	"
	5.30	20	"	109.7		111			111.5		122.7	117	86	"
	7.00	120	"	105		108.7			107		118	117	84.7	"
	8.00	180	"	103		105			115		115		84.7	"
	9.00	240	"	102.5		104.5			104.5		113.5	113	85.5	"
	10.00	300	"	102.5		104.5			104.7		112.5	112	85	"
	11.00	360	"	103.5		105.7			105.5		113	112	85.5	"
	12.00	420	"	1.73	1.712	1.73	1.715	1.777	1.76	1.73	1.745	1.745		P. W.
				Recharge										
7/16/09	PM 12.00	0	40	1.437	1.432	1.43	1.41	1.432	1.435	1.41	1.397	1.398		
	.04	4	"	133	133	133	1332	134	134	1332	1333	133		
	.10	10	"	131	131	1312	131	132	1317	131	1312	131		
	20	20	"	1283	1282	1287	1287	129	129	1285	1282	128		
	40	40	"	125	125	1252	1253	1255	125	1255	1252	1248		
	1.00	60	"	123	1223	1232	1223	1232	1223	1237	1217	1215		
	1.00	60	"	108		109			109.5		116	115	86	Temp
	2.00	80	"	1212	121	1215	1212	1212	1212	122	1175	119		
	40	100	"	120	1192	1202	1202	1202	1202	1212	118	1172		
	2.00	120	"	1122	1125	119	1187	119	119	1195	1160	1165		
	2.00	120	"	110.7		111.7			111.7		119	118	86.2	Temp
	20	140	"	117	116	118	1125	112	118	1182	1145	1135	86.2	
	40	160	"	1147	113	1137	115	1145	1162	117	1127	1105		

DATE	TIME	MIN	AMPS	551	552	553	567	466	467	468	464	488	TEMP Idle	
7/16/69	PM 3:00	180	40	1112	1092	1127	1122	114	114	1145	108	1072		
	300	150	"	119		1155			115		122	120	847	Temp
	340	190	"	111	108	1115	111	111	113	1135	1065	105		
	90	200	"	158	115	109	108	110	111	112	103	101		
	86	206	"									100		— 137.3
	86	208	"								100			— 138.7
	36	210	"	106	102	106	106	108	110	109	995	98		
	34	214	"		100									— 142.7
	40	220	"	105	98H	1012	102	105	106	1065	93	99		
	42½	222½	"			100								— 148.3
	44½	224½	"	100										— 149.7
	45	225	"				100							— 150.
	48½	228½	"							100				— 152.3
	50	230	"	95	84	84	96	101	102	96	82	88		
	51½	231½	"					100						— 154.3
	53½	233½	"						100					— 155.
	53	233	"		50									— 155.3
	54	234	"			50				50				— 156.
	54½	234½	"								50			— 157.7
	400	240	"	72			51	84	82			60		
	46	240	"	118		121			115		127	121	845	Temp.
	01	241	"				50							— 160.7
	02	242	"									50		— 161.3
	03	243	"	50					50					— 162.
	04	244	"											— 165.3
	10	250	"					76						
	144	2542	"					80						— 169.7

DATE	TIME	MIN	AMPS	551	552	553	554	466	467	468	404	481	TEMP Rec
	Charge			#(82)		(82)		(109)	109	181	202	152	
7/12/09	PM 455	0	30	115		114			114		125	125	84
	555	60	"	108		109			107.7		122	119	83.7
	655	120	"	106		107			107.7		118	117	83
	755	180	"	103		104			104		114	132	82.5
	855	240	"	101.7		103.7			103.5		122	111	81.5
	955	300	"	101.7		103.5			103.2		111.2	110	82
	1055	360	"	101		103.2			103.5		111	109.5	81
	1155	420	"	102		104.5			105		111.7	111.7	81.7
	1155	420	"	172.7	171.7	172.7	172	173	177	173	176	175.7	
				Discharge									
7/13	AM 12.00	0	40	144.5	143.7	143.7	142.2	143.7	142.7	142	142.2	140	
	.05	4	"	133.7	133.7	133.7	134	134.5	133.7	134	134	134	
	.10	10	"	131	131	131	131.5	132	131.7	131	131.7	131.5	
	.20	20	"	129	129	129	129.5	129.7	129	129	129	129	
	.30	30	"	127.7	127.5	127.5	127.7	128	127.7	128	128	128.5	
	1.15	75	"	122	122	122	122	122	122	122	121	122.2	
	1.15	75	"	108		109.5			109.5		116	115	85 Temp
	.25	85	"	121	121	121.7	121.7	121.5	121	122	120	119.5	
	.40	100	"	120.2	120	121	121	120.5	120.5	121.7	119	118.2	
	2.00	120	"	118	118	119	119	119.5	119.7	120	117	116	
	2.00	120	"	109.5		111.5			111		118.5	117.2	83 Temp
	.20	140	"	117.5	116.5	118	118	118.2	118.2	118	116	115	
	.40	160	"	115.5	114.7	116	116	116.2	116.2	117.5	115.5	114.5	

DATE	TIME	MIN	AMB	551	552	564	569	466	467	468	464	465	105	
7/17/89	AM 3:00	160	40	117.5	107	114	114	115	115	115.7	116	115		
	3:05	156	"	112		113.5			113		120.7	113.7	122	Temp
	120	232	"	109.7	102.5	110	109.7	111.7	112	112.5	110.5	112.5		
	130	232	"	108	105	106.2	108	110	111	111.5	109	112.5		
	135	232	"									100		
	136	216	"								100			
	142	226	"	116	102	112	106	108	110.5	109.7	99	99		
	1424	229/6	"		100									
	128	228	"	102	97.5	105	102.5	114.5	116	105.7	93	95		
	53	232	"	100										
	55	235	"				100							
	4:00	234	"	93	67	74.7	96	105	100	98.8	100	99		
	4:05	234	"	114.5		117.2			102		125	114.5		
	102	229/6	"		50									
	03	234	"			50			100					
	04	234	"							50				
	06	234	"								50			
	10	230	"	67.7			50	92	89.7			125		
	12	229/6	"				50							
	13	229	"	50								50		
	17	229	"						50					
	20	226	"					76						
	22	226	"					50						
	25	225	"	120.7		122			114.5		125.5	125		
											✓	✓		

822	Temp
	— 143.3
	— 144.
	— 148.3
	— 153.3
	— 155.3
	— 156.7
	— 160.
823	Temp
	— 161.7
	— 162.
	— 162.7
	— 164.
	— 167.
	— 168.3
	— 171.7
	— 176.7
827	Temp

DATE	TIME	MIN	AMP-551	552	554	559	566	567	561	564	561	NOTE
7/17/09			Discharge (°27)			(°27)		(°28)	18.7	203		
	4:00	0	30	114		114		114.5		124	124	Temp
	4:05	5	"	109.5		110		110.5		121.5	117	"
	4:10	10	"	106.7		108		108.5		119	117.2	"
	4:20	20	"	103.7		104.7		104.7		115	113.7	81.25 "
	4:30	30	"	102		104.5		104		113	112.2	83 "
	4:40	40	"									"
	4:50	50	"									"
	5:00	60	"									"
	5:10	70	"	105		105		105		112	111	"
	5:20	80	"	103.7	103.7	103.7	103.7	103.7	103.7	103.7	103.7	175 P.W

Stood idle 36 hrs over Saturday & Sunday charged

Discharge

7/19/09	AM 12:00	0		81		81			84		80	90.5	78.5	Temp.
	12:00	0	40	130	130	130	130	131	131	130	129.5	129.5		
	:04	4	"	123.5	123.5	123.5	123.5	124	124	123.5	123	123	122	
	:10	10	"	121.5	121	121.5	121.5	122	122	122.5	122.5	122	120	
	:20	20	"	120	119.5	120	120	120	120	119.5	119	119	117	
	:40	40	"	116.5	116	116.5	116.5	116.5	117	117	116	116	115.7	
	1:00	60	"	115	114.5	115	115	115	115	115	114	114	113	
	1:00	60	"	89		90			89		90.5	90		Temp.
	1:30	80	"	116	115.5	116	116	116.5	117	116.5	116.5	116.5	115.5	
	2:00	100	"	116.5	116.5	116.5	116.5	116	116	116	116	116	115	

DATE	TIME	MIN	AMP	551	552	562	569	466	467	464	404	398	Th		
7/19/47	AM 2.00	120	40	113	112	1135	1135	1145	115	1155	110	1[illegible]			
	2.00	"	"	96		925			947		98	9[illegible]		172	Temp
	:26	140	"	111	1025	1117	1115	1125	1132	1132	1021	1027			
	:26	150	"	110	108	1165	1165	1175	1125	110	106	105			
	40	160	"	109	106	109	1062	112	112	112	1045	101			
	46	166	"									100			— 110.7
	50	170	"	1075	1045	1030	107	110	110	111	102	98			
	56	176	"								100				— 117.3
	300	180	"	1055	103	1055	1045	105	1055	109	1022	907			
	3.00	180	"	100		101		1	975		101	104		172	Temp
	:03	183	"		100										— 126.
	10	190	"	104	992	1022	1025	1062	107	1077	94	915			
	20	200	"	1025	945	100	100	104	105	105	88	882			— 133.3
	26	206	"	100	"										— 136.3
	30	210	"	96	80	90	96	101	102	100	78	84			— 140.
	35	215	"		80			100							— 143.3
	36	216	"			56			100						— 144.
	37	217	"							50	56				— 144.7
	40	220	"	78			70	91	97			79			
	42	222	"				50								— 148.3
	45	225	"	56								80			— 150.
	50	230	"					80	57						
	54	234	"						80						— 154.3
	57	237	"					80							— 158.
	400	240		111		1135			109		117	115		175	Temp
											✓	✓			

All 398 was connected in Endurance Section after this discharge for 25 runs.

DATE	TIME	MIN	AMB	551	552	568	567	466	467	468	404	465	398	Delb	
		Chicago # (88)			# (88)			(# 101)	# 102		# 104	# 104	# 358		
7/19/07	AM 455	0	80	102		102			102		115	110	80	112	Temp.
	555	60	"	103		103			101		111	103	84	78	"
	655	120	"	97		97			97		102	105	85	74	"
	755	180	"	94		94			94		103	103	88	72	"
	855	240		93		94			94		102	102	904	72	"
	955	300		92		94			94		102	102	924	73	"
	1055	360		94		94			94		102	102	944	74	"
	1155	420		94		92			92		102	104	972	75	"
	1155	420		176	174	176	174	182	180	177	179	179	1782	P.D.	
7/19/07		Dinilaugh													
	1200	0	40	144	144	145	142	142	142	135	119	156	140	1397	
	04	4	"	137	137	137	132	132	134	137	137	135	136		
	10	10	"	132	132	135	135	132	132	135	137	132	137		
	20	20	"	128	128	128	129	129	129	129	129	128	130		
	40	40	"	124	124	124	124	124	124	124	124	124	126		
	100	60	"	122	122	122	122	122	122	122	122	124	124		
	100	60	"	100		102			102		108	108	102	102	Temp.
	30	80	"	121	121	121	121	121	121	122	121	119	124		
	40	100	"	120	118	120	120	120	120	120	118	118	120		
	200	120	"	118	118	119	119	119	119	120	117	112	119		
	300	120	"	102		105			107		112	112	104	77	Temp.
	20	140	"	117	116	119	115	116	116	119	115	115	118		
	40	160	"	115	114	117	115	116	116	117	113	112	117		

DATE	TIME	TIME	AIR	568	569	466	467	468	469	488	398	Note
7/19/79	PM											
	2:00	180	40	112.5	113.5	111	113	114.2	114.2	115	115.5	
	3:00	120	"	105.5		108.2		108	115.2	115	105.2	Temp
	12:0	2:00	"	103.7	107	110	113	116.5	113	113.5		
	1:00	2:10	"	107	104	107.7	107.2	107	111	112	111.5	
	1:30	2:15	"								122	— 143.3
	2:00	2:15	"							113		— 144.7
	4:00	2:00	"	105	111	104.5	103	102.2	103.5	119	117	
	4:30	2:15	"		109					119	109	— 148.3
	5:00	2:15	"			120						— 152.7
	5:30	2:30	"	101	92.5	99	111.7	103	108.2	115	81	
	6:00	2:30	"	100							105	— 154.
	6:30	2:30	"				110					— 155.3
	7:00	2:35	"						110.0			— 156.7
	7:30	2:35	"				100					— 158.
	8:00	2:35	"						110.0			— 159.3
	8:30	2:35	"	88	55.7	50	93	97.5	99	74.7	79	— 160.
	9:00	2:45	"	111.2		112.5			111.5		120.5	120 112.2 Temp
	10:00	2:45	"		50							— 160.3
	10:30	2:45	"							50		— 161.3
	11:00	2:45	"								50	— 164.
	11:30	2:45	"				50					— 165.3
	12:00	2:45	"	50								— 165.7
	12:30	2:20	"					70	111.7			55.7 94.2
	1:00	2:20	"						50			— 167.7
	1:30	2:20	"									— 169.7
	2:00	2:00	"					70			70	
	2:30	2:00	"					50				— 176.
	3:00	2:00	"								50	— 176.7
	3:30	2:00	"	118.5		115.5			114		127	127 114.5 Temp
											✓	✓ ✓

| DATE | TIME | [illegible] | [illegible] | [illegible]

DATE	TIME	MIN	AMP	551	552	562	563	466	462	463	409	416	876	Delle	
7/10/67	AM 500	160	40	1122	1165	112	1125	1142	1142	1155	110	1017	1155		
	300	180	"	165		166			165		115	116	110	79	Temp.
	20	200	"	110	101	110	110	112	112	113	1055	1057	1123		
	30	210	"	108	1045	108	108	110	110	1117	102	103	112		
	35	215	"								100				— 143.3
	38	218	"									100			— 145.3
	40	220	"	1045	100	1045	104	106	107	1087	92	94	1035		— 146.7
	50	230	"	100	91	100	1087	103	104	1045	90	935	1045		— 153.3
	52½	232½	"				100								— 155.
	54½	234½	"							100					— 156.3
	56½	236½	"					100							— 157.7
	58	238	"						100						— 158.7
	400	240	"	86	50	52	90	92	98	66	70	84	1025		— 160.
	400	240	"	116		112			113		125	103	103	775	Temp
	00	2400	"			60									— 162.
	02	242	"							50					— 163.3
	05	245	"								60				— 165.3
	08	248	"										100		— 166.
	09	249	"				50								— 166.7
	10	250	"	50				88	80			50	98		— 170.
	15	255	"						50						— 175.3
	20	260	"					18					92		
	25	265	"					50							— 183.3
	30	270	"										68		
	35	275	"										60		
											✓	✓	✓		

DATE	TIME	MIN	MM	551	552	560	561	466	467	468	400	488	398	1016	
	Discharge (70)					(90)		(103)	185		200	156		260	
2/20/09	AM 455	0	90	114		114			115		128	126	113.5	77	Temp
	555	60	"	106		107			109		121	121	110	76.5	"
	655	120	"	101		102			103		115	116	105	76	"
	755	180	"	99		101			101		112	113	103.5	76.5	"
	855	240	"	98.5		99			99.2		109	110.5	101.7	76.7	"
	955	300	"	97		98.2			98.7		107.7	109.	101.5	76.7	"
	1055	360	"	98.5		99.2			99.2		107.2	108.2	102.7	78.2	"
	1155	420	"	99		101			101		108.2	109.	103.7	79	"
	1255	480	"	1.745	1.725	1.75	1.73	1.797	1.777	1.75	1.77	1.757	1.78		C. D.
				Discharge											
2/20/09	PM 1200	0	40	1.437	1.43	1.43	1.427	1.432	1.422	1.43	1.412	1.42	1.437		
	.04	4	"	1.334	1.332	1.332	1.327	1.342	1.322	1.324	1.312	1.327	1.335		
	.10	10	"	1.307	1.304	1.31	1.31	1.312	1.31	1.31	1.31	1.31	1.332		
	.20	20	"	1.285	1.28	1.285	1.285	1.287	1.285	1.282	1.287	1.29	1.305		
	.40	40	"	1.252	1.252	1.255	1.255	1.257	1.252	1.257	1.247	1.257	1.265		
	1.00	60	"	1.23	1.225	1.232	1.23	1.23	1.225	1.227	1.217	1.212	1.24		
	1.00	60	"	1.05		1.05			1.04		111.5	112.7	107.5	80	Temp
	.20	80	"	121	121	121.7	121.7	121.7	121		122	120	122		
	4.0	120	"	120	120	121	121.5	121.2	121.2	121.5	116.5	116	121		
	2.00	120	"	116.2	116	119	119	119	119	120	117	117.2	119.7		
	2.00	120	"	106.2		108			107		115	115.7	111	80.7	Temp
	.20	140	"	117	117.2	117.7	117.7	117	117	118	115	115.5	117.2		
	4.0	160	"	115	114	116	116.7	116.2	116.2	117	112.5	112.7	117		

DATE	TIME	MIN	AMPS	551	552	568	569	466	467	468	404	488	398	TEMP Rolla	
7/20/09	PM 3:00	180	40	112	112.5	113	112.5	114	114	115	109	109	115		
	3:00	180	"	121.7		111			110		112	115	113		Temp
	20	200	"	1095	107	110	109.5	111	111.5	112.2	104	104.7	113		
	.25	215	"	107	104	112.5	107	111.7	109	110.2	100	111 100	111		— 140
	.32	222	"												— 142.
	.40	230	"	104	100	104 100	104	105.5	107	108	104.5	107	108.5		— 146.7
	.48	238	"												— 152.
	.56	246	"	100									106		— 152.3
	.60	250	"	99	99	97	100	101.7	102	102	81.2	92			— 153.3
	.63	253	"							100					— 155
	.65	255	"					100							— 155.3
	.67	257	"						111						— 156.7
	.69	259	"		100	100									— 159.
	4:00	240	"	82			66	94.5	95	100	101	97			— 159.3
	4:00	240	"	114		117			113.5		113.7	112.7	112		
	.03	243	"								100		115	81.7	Temp
	.05	245	"												— 160.3
	.07	247	"										100		— 162.3
	.09	249	"				100					100			— 163.7
	.11	251	"												— 164.3
	.13	253	"	100				100	51				97		
	.15	255	"						100						— 167.
	.17	257	"					100							— 170.7
	.19	259	"										88		
	.20	260	"										100		
	.21	261	"												— 181.7
	.22	262	"	121		121			120.7		122.2	123.7	123.7	122	Temp

DATE	TIME	MIN	MM	551	552	553	554	555	556	557	558	559	560	561	562			
7/2/08			Charge	(91)			(91)			(104)	102	203	103		726			
	P.M. 4:55	0	50	118			117			118		1237	1239		1155	825	Temp	
	5:55	60	"	1127			1132			1104		1262	1266		1147	833	"	
	6:55	120	"	109.5			1095			1125		1227	1235		113	837	"	
	7:55	180	"	102			1025			1025		119	120		111	84	"	
	8:55	240	"	104			1062			107		116	1172		1095	832	"	
	9:55	300	"	102.2			1045			105		114	115		1122	825	"	
	10:55	360	"	102			104			104		113	114		107	816	"	
	11:55	420	"	102			104			1045		113	1145		107	812	"	
	12:55	480	"	114	122		114	122	128	122	124	1265	1270		1225		P. W.	
			Discharge															
7/2/08	AM 12:00	0	40	140	149		144	1435	1445	144	144	1435	143		1417			
	04	4	"	137	137		137	137	1323	132	132	132	132		130			
	16	10	"	1307	131		1305	131	1319	131	1312	1312	131		1295			
	20	20	"	1265	127		1262	1265	127	1265	1262	1262	128		1307			
	40	40	"	1265	1265		1265	1267	127	1265	1262	126	126		128			
	1:00	60	"	124	1256		1232	124	1242	1235	124	1222	1222		1225			
	1:00	60	"	102			1023			1025		112	113		1065	805	Temp	
	20	80	"	122	122		122	122	122	122	1225	120	120		1225			
	40	100	"	120	120		1205	1202	120	120	1205	118	118		1205			
	2:00	120	"	1186	118		115	119	119	118	118	117	1165		1195			
	2:00	120	"	102			105			1025		113	1145		107	79	Temp	
	20	140	"	105	1125		118	118	118	118	119	116	115		115			
	40	160	"	1057	1065		1122	116	117	1165	1177	1172	1165		117			

DATE	TIME	MIN	AMPS	468	468	469	466	467	468	464	465	398	Stable Temp.	
1/21/07	AM 300	150	40	1135	112	114	114	1185	115	112	110	110	1185	
	300	180	"	105		107			1065		113	112	109	Temp
	20	200	"	1105	1025	1165	1115	1175	1170	1125	1065	106	1035	
	27	207	"								100			— 144.7
	40	210	"	107	104	107	102	108	109	110	997	100	110	— 146.7
	48	215	"		100									— 152.
	50	230	"	107	108	109	102	105	106	107	995	99.5	107	
	51	231	"			100								— 157.3
	55	235	"				100							— 158.7
	57	237	"	100										— 159.3
	400	240	"	997	225	96	98	1012	102	1025	94	90	104	
	402	242	"	112		112			112		124	123	113	28 Jump
	03	243	"					100		100				— 162.
	08	248	"		50				100					— 165.3
	09	249	"			50								— 166.
	09	249½	"								50			— 166.3
	10	250	"	85			92	90	94	50		47	100	— 166.7
	14	254	"									50		— 169.3
	15	255	"				50							— 170.
	18	258	"	50										— 172.
	20	260	"					76	64				96	
	21	261	"						60					— 174.
	25	265	"					50						— 176.7
	30	270	"										52	
	31	271	"										50	— 180.7

DATE	TIME	PSIG	AMP.	501	502	503	504	506	507	508	509	1150	552	Jell	
		Schengel (92)				(92)			(195)	197	208	158	260		
7/21/09	AM 455	0	90	115		115			1.15		128	126	114	77.7	Temp.
	555	60	"	108		109			112		124	120	112	77.6	"
	655	120	"	1045		107			1.05		117	120	109	78	"
	755	180	"	101		103			104		114	116	106	79	"
	855	240	"	99.7		1015			102.7		1115	113	1045	79.5	"
	955	300	"	99.2		1012			1012		1102	112	1042	80	"
	1055	360	"	100		102			102		110	1115	1042	81	"
	1155	420	"	1012		103			1026		111	1117	1062	81.7	"
	1155	420	"	1.742	1.722	1.745	1.725	1.725	1.775	1.745	1.765	1.75	1.78	79.5	D.
7/21/09	PM		Discharge												
	1200	0	40	1.432	1.43	1.43	1.432	1.432	1.43	1.43	1.412	1.40	1.44		
	.04	4	"	1.332	1.33	1.332	1.337	1.342	1.342	1.342	1.32	1.337	1.367		
	.10	10	"	1.31	1.31	1.31	1.312	1.317	1.317	1.31	1.312	1.31	1.337		
	.20	20	"	1.29	1.287	1.29	1.29	1.292	1.29	1.29	1.287	1.287	1.31		
	.40	40	"	1.255	1.252	1.255	1.255	1.25	1.255	1.25	1.245	1.245	1.267		
	1.00	60	"	1.23	1.227	1.232	1.222	1.23	1.227	1.225	1.21	1.215	1.237		
	1.00	60	"	1.06		1.07			1.07		1.067	1.05	1.10	81.7	Temp.
	2.0	80	"	1.215	1.21	1.217	1.217	1.215	1.215	1.222	1.20	1.197	1.22		
	4.0	100	"	1.20	1.20	1.215	1.202	1.202	1.202	1.21	1.192	1.18	1.205		
	2.00	120	"	1.17	1.162	1.19	1.19	1.19	1.19	1.20	1.172	1.165	1.19		
	2.00	120	"	1.07.5		111			1.05		1.12	1.17.5	1.127	82.5	Temp.
	2.0	140	"	117	1.162	1.172	1.17.5	1.18	1.18	1.16	1.15	1.14.5	1.18		
	4.0	160	"	1.15	1.142	1.16	1.157	1.165	1.162	1.17	1.127	1.12	1.17		

DATE	TIME	MIN	AMB	466	467	468	469	466	467	468	404	488	398	Delta Temp.
7/21/09	300 AM	180	40	1.13	1.11	1.135	1.13	1.142	1.142	1.15	1.095	1.09	1.145	
	300	180	"	1.121		1.13			1.127		1.205	1.20	1.15	83.5 Temp.
	.20	200	"	1.10	1.075	1.10	1.097	1.115	1.115	1.125	1.05	1.09	1.12	
	.30	210	"	1.08	1.05	1.08	1.07	1.09	1.097	1.105	1.002 200	1.01	1.10	— 140.7
	.31	211	"											— 142.
	.35	215	"	1.055	1.01	1.05	1.04	1.06	1.07	1.08	.95	.92 120	1.08	
	.40	220	"		1.02	1.00								— 147.7
	.41	221	"											— 151.7
	.42	222	"											— 153.3
	.50	230	"	1.00	0.97	0.97	1.00	1.02	1.025	1.05 110	.84	.91	1.05	— 154.7
	.51	231	"											— 155.3
	.55	235	"					1.00						— 157.3
	.57	237	"						1.00					— 158.7
	.58	238	"		.50	.50				.55	.50			— 159.
	400	240	"	0.55			.53	.94	.925	.955		.64	.91	
	400	240	"	1.47		1.49			1.47		1.22	1.25	1.47 1.30	83.5 Temp.
	.01	241	"											— 161.
	.02	242	"									.50		— 161.7
	.04	244	"				.50							— 163.
	.05	245	"											— 164.7
	.07	247	"	.50					.50					— 166.
	.09	249	"					.73 .50					.95	
	.10	250	"											— 169.
	.13	253	"										.84 .50	
	.20	260	"											— 180.3
	.25	265	"											
	.30	270	"	1.25		1.23			1.23		1.35	1.31	1.29	.94 Temp.
				✓	✓	✓	✓						✓	

DATE	TIME	MIN	AMP	551	552	553	569	566	567	564	564	565	392	DATE	
7/21/69				Charge (92)		(93)		(126)		188	209	157			
	P.M. 4:55	0	30	118		118		1224			1337	132	118	84	Temp
	5:55	60	"	112		112.7		115.5			127	122.5	115	83.5	"
	6:55	120	"	107		108		110.2			122.5	122.5	110	82	"
	7:55	180	"	103		105		106.5			117	116	108	82	"
	8:55	240	"	102		103		103.7			113.7	115	102	80.7	"
	9:55	300	"	100		102		102.5			112	112.5	105	80.2	"
	10:55	360	"	100		101.7		102.2			111	112	105	80	"
	11:55	420	"	100		101.5		102			111	112	105	80	"
	11:55	420	"	126	124	126	128	126	126	128	126		126		8.10
				Discharge											
7/22/69	AM 12:00	0	40	146	146	146	146	145	146	144	142	146	145		
	:04	4	"	136	136	136	136	137	137	135	137	137	139		
	:10	10	"	131	131	131	131	131	131	131.5	131.5	131	133		
	:20	20	"	129	128	128	128.5	131	131	128.5	128.5	129	131		
	:40	40	"	125.5	125	125	125.5	125	125.5	125.5	125	125	125		
	1:00	60	"	123	122.5	122.5	122.5	122.5	122	122.5	122.5	122	120.5		
	1:00	60	"	99		101			100		110	105	111	89	Temp
	:20	80	"	124	121	121.5	121	121	121	121.5	121	121	122		
	:40	100	"	120	120	120.5	120.5	120.5	120.5	120.5	120.5	120	121		
	2:00	120	"	117	117	117.5	118	118	118.5	118	117	116.5	119		
	2:00	120	"	100		100			101		101	109	105		Temp
	:20	140	"	117	117.5	117.5	118.5	118	118	118.5	118	118.5	118		
	:40	160	"	115	114	116	117.5	116	116.5	117	117.5	117	117		

DATE	TIME	MIN	AMPS	551	552	561	569	426	422	46	461	482	398	IDLE	
1/12/19	300	180	40	113	111	1135	123.5	1142	1149	115	1035	109	145		
	300	180	"	100		103			103		110	117	105	72	Temp.
	90	200	"	1105	1015	110	110	1113	1112	1127	1052	1095	112		
	30	210	"	105	182	109	1025	1135	1102	1115	1015	101	111		
	32	215	"									100			— 145.3
	40	220	"	101	1055	108	107	1035	1092	1187	100	99	110		— 146.7
	50	230	"	102	1035	106	1045	108	102	105	905	905	109		
	52	232	"		100										— 158.7
	400	240	"	102	99	1025	102	105	102	1015	92	94	1025		
	400	240	"	106		110			109		119	111	112	73	Temp
	65	245	"			103									— 163.3
	065	245	"				100								— 164.3
	67	247	"	100											— 164.7
	10	250	"	98	82	84	98	102	103	100	83	89	104		— 166.7
	124	254	"		50	50		100							— 172.3
	26	256	"	84			84	92	100	50	62	62	102		— 173.3
	30	260	"								50				— 174.3
	29	264	"									50	100		— 176.
	35	265	"				50								— 176.7
	38	270	"	50				92	54				94		— 180.7
	39	271	"						50						— 181.7
	3L	272	"					50							— 184.
	40	280	"										86		
	50	290	"										50		— 193.3
				✓	✓	✓	✓								

DATE	TIME	MIN	AMP	557	558	568	569	426	461	462	464	466	398	DATE	
	Recharge			1.19		(94)		(1.57)		1.19	2.16	1.16	.964		
7/22/09	455	0	30	118		1165			1150		1265	125	.115	77	Temp
	555	60	"	110		110			112		125	125	.113	77	"
	655	120	"	103		104			105		118	120	.103	77.5	"
	755	180	"	99		101			102		114	112	.105	77.5	"
	855	240	"	96		98.7			98.4		1.12	1.24	1.09	77.5	"
	955	300	"	96		97.5			98.7		1.08	1.10	1.09	77.2	"
	1055	360	"	96.2		97.2			97.2		1.07	1.09	1.01	78	"
	1155	420	"	96.2		98.5			99.		1.07	1.09	1.03	78.5	"
	1255	480	"	1.742	1.73	1.75	1.73	1.795	1.78	1.747	1.77	1.75	1.79		C. 10
						Discharge									
7/22/09	PM 1200	0	40	1.425	1.425	1.425	1.417	1.422	1.427	1.422	1.40	1.397	1.425		
	04	4	"	1.337	1.335	1.335	1.33	1.337	1.337	1.337	1.335	1.337	1.336		
	.10	10	"	1.305	1.302	1.302	1.305	1.312	1.31	1.307	1.31	1.307	1.302		
	1.20	20	"	1.28	1.277	1.28	1.282	1.285	1.282	1.28	1.28	1.28	1.302		
	.40	40	"	1.264	1.264	1.262	1.262	1.255	1.25	1.255	1.245	1.24	1.262		
	1.00	60	"	1.224	1.227	1.227	1.23	1.227	1.227	1.224	1.224	1.217	1.224		
	1.00	60	"	1.00		1.022			1.024		1.07	1.12	1.024	78.5	Temp
	.20	80	"	1.21	1.21	1.215	1.217	1.21	1.21	1.222	1.197	1.19	1.217		
	.40	100	"	1.20	1.197	1.20	1.20	1.20	1.20	1.21	1.18	1.177	1.20		
	2.00	120	"	118	1.177	1.165	1.165	116.5	116.5	1.177	116.2	1.157	119		
	2.00	120	"	103		1.045			1.04		113	1.137	1.065	78	Temp.
	.20	140	"	1.17	1.16	1.175	117	1.18	118	1.182	115	114	118		
	.40	160	"	115	114	1.17	1.165	116	116	117	113	1.12	116		

| DATE | TIME | | |

Date	Time	Min	Hour	1.44	1.45	2.68	1.69	1.46	1.47	1.48	1.04	1.48	398	Remarks
7/22/09	Charge													
	7:44	0	30	112.2		112			113.5		126.5	114.7	114	Temp
	7:54	60	"	106.5		107			107		121	121	110.2	77 "
	8:44	120	"	104		105			106		117.5	116.2	108	77.7 "
	9:44	180	"	101.5		103			103.7		112.5	112.5	104.5	78 "
	8:44	240	"	99.5		101.5			101.5		111.2	113	104.5	78.2 "
	9:44	300	"	98					102		109	111	102	78 "
	10:44	360	"	97		99.5			99.5		108	110	103	77.7 "
	11:44	420	"	97.5		100			100		108	109.5	103.5	77.5 "
	12:44	480	"	116	174	176	174	180	179	176	178	177	180	P. 10
				Discharge										
7/23/09	AM 12:00	0	40	143	143	143	142	142	142	142	140	139.7	144	
	09	4	"	133.7	133.5	133.7	133.5	134	134	134	134	133.7	136.5	
	10	16	"	133.7	133.5	131	131	131.7	131.5	131	131.5	131	133.5	
	20	20	"	132	132.7	132.5	132.5	132.5	132.5	132.5	132	128	130	
	40	40	"	127.5	127.5	127.7	127.7	127.5	127.5	127	127.5	124.5	126.5	
	1:00	60	"	123.5	123.5	123	123	123	123.5	123	121.7	123.5	125.7	
	100	60	"	100		103			102		109	111	105	77 Temp
	20	80	"	119.5	119.5	119.7	119.7	119.5	119.5	119	117.5	119.7	122	
	40	100	"	120	120	120	120	120	120	120.7	118	117.7	120.2	
	200	120	"	118	118	119	119	119	119	120	116.5	116	119.5	
	220	120	"	115		115			114		113	114	108	77.7 Temp.
	20	140	"	113	116	117.7	117.5	116	118	118	115	114	118	
	40	160	"	115	114	115.7	115.5	116	116	115.5	112	115.5	116	

DATE	TIME	MIN	ANL	651	357	562	563	564	565	566	568	926	392	TABLE
7/13/69	AM 300	180	46	112	111	105	112	114	114	115	109	108	105	
	300	120	"	105	107	102			106		115	116	109	77 Temp
	120	200	"	109	107	110	113	110	110	111	105	102	111	
	30	210	"	107	104	107	106	108	109	110	100	100	110	— 140.
	40	220	"	104	100	104	104	106	116	107	94	95	107	— 146.7
	61	238	"			100								— 152.
	49	229	"				102							— 152.7
	50	230	"	100	90	106	99	100	102	101	84	90	104	— 153.3
	57	237	"							100				— 154.3
	57	237	"						100					— 156.3
	59	239	"			60								— 159.3
	400	240	"	84	50		72	94	86	50	58	61	100	— 160.
	400	240	"	113		115			115		122	120	109	777 Temp.
	04	244										60		— 164.7
	06	246					50							— 164.3
	02	242	"	50										— 165.
	10	250	"					72	50				94	— 166.7
	12	252	"					56						— 169.
	20	260	"										78	
	29	269	"	✓	✓	✓	✓						58	— 179.3

DATE	TIME	MIN	AMB	551	552	553	554	466	467	465	454	456		376	DIFF	
				Refrigerant (96)			(96)		(189)	191	212	162		266		
1/23/55	455	0	36	111			110		110		125	120		112	78	Temp
	555	10	"	105			104		106		115	116		104	75	"
	655	120	"	100			101		102		113	112		100	74	"
	755	120	"	97			95		97		107	108		98	74	"
	855	240	"	94.7			96.2		96.7		1062	1065		98.7	76	"
	955	360	"	93.4			96.4		96.5		1062	1063		98.7	76	"
	1055	360	"	93.7			94.7		95.7		105.2	104		98.7	76	"
	1155	420	"	94.7			98.		97.2		106	105.		100.5	76	"
	155	420	"	1.757	1.74	1.76	1.74	1.787	1.79	1.76	1.79	1.752		1.80		P. 10.
				Discharge												
7/23/57	8 PM															
	12.00	0	40	1.44	1.43	1.43	1.43	1.43	1.43	1.427	1.41	1.39		1.432		
	.04	4	"	1.33	1.33	1.33	1.332	1.34	1.34	1.34	1.337	1.332		1.265		
	.10	10	"	1.31	1.31	1.31	1.31	1.315	1.315	1.312	1.312	1.31		1.337		
	.20	20	"	1.284	1.284	1.287	1.29	1.29	1.287	1.28	1.284	1.285		1.31		
	.40	40	"	1.25	1.25	1.252	1.252	1.252	1.25	1.252	1.245	1.245		1.267		
	1.00	60	"	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.227	1.217		1.24		
	1.00	60	"	100.		101.7			101.		108.	105.5		104		Temp.
	20	80	"	1.212	1.21	1.215	1.215	1.21	1.21	1.222	1.197	1.192		1.22		
	40	100	"	120	120	120.7	120.5	121	121	121	120.5	119		120		
	200	120	"	118.5	118.2	119.5	119	119	119	120	117	116.2		119.5		
	200	120	"	100.7		103			102.5		111.5	109		101.2	76.5	Temp.
	20	140	"	117.	117.	118	118	118	118	119	115.7	114.5		118		
	40	160	"	115	114.2	116	116	116.2	116	117	113	112		116.2		

DATE	TIME	MINUTES	551	552	568	569	466	467	468	404	455	39 F	10 LB	
7/23/09	2:00	180	113	112	112	113	114.7	112.2	115	110	[illegible]	115		
	3:00	180	103		107			102.5		112	113	107	76.5	Temp
	120	200	1.10	1.08	1.105	1.10	1.115	1.12	1.12	1.055	[illegible]	1.13		
	30	210	107.5	1.05	1.08	1.07	1.015	1.095	1.05	1.07	1.02	1.02		
	31	211								153	[illegible]			
	41	221	104	101.5	105	104	105.5	103	111.5	115	102	105		— 140.7
	44	224		100										— 149.7
	45	225			102									— 152.7
	50	230	100	92	97.5	100	100	102	112	98	97	104.5		— 153.3
	55	235						100	100					— 155.3
	60	240												— 157.3
	1:00	240	97.7	92.5	95	92	94.2	97	95.7	98	[illegible]	102		
	4:00	240	106.5		109			97.5	100	124	[illegible]	111.5	75	Temp
	[illegible]	[illegible]			50									— 160.3
	[illegible]	[illegible]		50					50					— 161.
	[illegible]	[illegible]										100		— 162.
	127	247									50			— 164.7
	128	248			50	50								— 165.7
	129	249	50											— 166.
	130	250					77.7	65				97		
	131	251						50						— 168.3
	132	252	✓	✓			50							— 170.3
	133	253				✓								
	134	254										95		
	135	255										74		
	136	256										50		— 184.7
	137	257												
	137	257	114.5		115.7			112.5		125	112	114	75.7	Temp

Calls 55, 552, 568, 569 were removed from this test and connected up on testing board for over-charge tests. See results in the individual record book. 7/26/09

DATE	TIME	MIN	AMPS	466	467	468	484	488	394	1066	
7/23/09		Charge		(190)	192		213	163	267		
	PM 4.55	3	0.50	-	114		127.5	128.5	115	76	Temp
	5.55	60	"		109.		122.2	120.5	111.	76	"
	6.55	120	-		104		117	117	108	76	"
	7.55	180	-		101.2		113.7	112	104.5	76.5	"
	8.55	240	"		99		110	111	104	77	"
	9.55	300	-		99		109.5	109.7	103.7	77.2	"
	10.55	360	"		97.5		109.5	109.5	104.5	77.5	"
	11.55	420	-		100.5		110	110	106	77.5	"
	11.55	420	-	122	122	128	128	128	128		P. 10
				Discharge							
7/24/09	AM 12.00	0	40	142	142	142	142	142	142.5		
	04	4	"	134	134	134	134	134	132		
	10	10	"	131.5	131.5	131.7	131.7	131.7	129		
	20	20	"	129	129	129	129	129	129		
	40	40	"	126	126	126.5	126.5	126.5	126.5		
	1.00	60	"		125.5		111.	113	121	78	Temp
	1.00	60	"	123	123	124	122	122	122.5		
	20	80	"	121	122	123	120.7	120	122		
	40	100	"	119.5	120	121	118.5	118	120.5		
	2.00	120	"	118.2	118	120	118.5	116.2	119.5		
	2.00	120	"		116		115	113	110		Temp
	20	140	"	113	113	119	111	115	118		
	40	160	"	111	111.5	117.5	114	113	116.5		

DATE	TIME	MIN	AMB	466	467	463	464	426	398	IDLE	
7/29/63	AM 300	130	46	114	114	115	110	1036	1145		
	300	180	"		101		111	1165	1165	22	
	20	200	"	1162	1112	1125	106	165	112		
	36	216	"	102	110	111	102	1017	110		
	37	217	"					100			
	38	218	"				100				— 144.7
											— 145.3
	40	220	"	164	106	102	95	96	102		
	50	230	"	100	1025	1032	86	92	1045		— 153.3
	52	232	"			100					— 154.7
	57	237	"		100						— 159.
	400	240	"	92	96	60	50	70	100		— 160.
			"								
	400	240	"		108		122	120	114	28	dump
	01	241	"			50					— 160.7
	03	243	"					50			— 163.7
	10	250	"	70	50				96		— 166.7
	14	254	"	50							— 169.3
	20	260	"						84		
	30	270	"						50		— 180.

DATE	TIME	MIN	AMPS	466	462	468	409	482	398	DLR	
7/25/60	AM	Charge (191)				193	214	164	968		
	455	0	36		114		128	121	115	77	Temp
	555	60	"		108		122	120	112	77	"
	655	120	"		100		116	116	107	77	"
	755	180	"		99		112	111.5	103	75	"
	855	240	"		96.5		108.	107.2	100	75	"
	955	300	"		96		105.	105.5	97.2	74.2	"
	1055	360	"		96.		104.5	105	97.	74.	"
	1155	420	"		97.5		105.5	104.5	97.7	76.5	P. 10
	1155	420	"								
				Stop. 36 hours charged.							
				Discharge							
7/26	AM										
	12.00	0	40		79.2		80	77.7	80.2	79.5	Temp
	12.00	0	"	130	131	130	128	127.5	130.5		
	.04	4	"	127.7	125	124	123	122.7	126.5		
	.10	10	"	122.5	123	122	121	120.2	124.5		
	.20	20	"	121	120.5	121	119.5	119	122.2		
	.40	40	"	119.5	120	120	117.7	116.5	120		
	1.00	60	"	116.2	119	119.7	116	115	119.		
	1.00	60	"		87		87.5	88	87.7	78.2	Temp
	.20	80	"	117.5	117	119.	115	113.5	117.7		
	.40	100	"	117	117	118	113.7	112	117.		
	2.00	120	"	116	116.2	117	112	110.5	116.		
	2.00	120	"		92.5		97	95.5	102	77.5	
	.20	140	"	114.2	115	115.5	113.7	108.	114.		

DATE	TIME											
7/24/31	2:43	350	43	111	112.5	112.7	107	105	107.3			
	:55	170	"	110.5	112.	112.2	102	101.7	111			
	:59	170	"					133				— 117.7
	3:0	250	"	111	111	111.5	102	99	112.2			
	3:03	120	"		96		109	102	108.5	72	Temp	— 126.
	:03	170	"				110					
	:12	290	"	112	112.2	112.5	96	94	108			
	:20	250	"	110	107	108	99.7	92	106			
	:24	210	"	112.5	112.2	112.2	88	88	1.3			
	:29	210	"	112								— 142.7
	:35	210	"			120						— 147.3
	:40	220	"	112.5	100	62	72.5	77	99.7			— 146.7
	:41	220	"			120						— 149.7
	:42	220	"				58					— 149.7
	:50	220	"	112.5	96.7			50	95.5			— 153.7
	:57	250	"		58							— 159.
	4:00	240	"	66					88			
	4:10	240	"		107.2		112.7	111	112.7	75	Temp	— 162.
	:07	240	"	60								
	:13	220	"						71.7			
	:19	250	"						50			— 172.7
	:19	250	"		107		112.5	114	109	76	Temp	

Cell #482 was connected in the Endurance Section after this discharge for 50 runs

DATE	Time			442	442	447	467	404	447	298	1R.E.	
7/7/09	[illegible]	[illegible]	[illegible]	(179)		(192)	194	215	165	269		
	[illegible]	[illegible]	[illegible]	77		1.255		1.552	1.145	1.017	1.015	Temp
	5	[illegible]	[illegible]	79.5		1.027		1.115	1.122	1.045	.25	"
	[illegible]	120	"	81.5		9.52		1.05	111.	1.17	0.97	"
	7.55	160	"	84.2		9.57		1.055	1.065	1.03	7.5	"
	[illegible]	[illegible]	"	87.2		9.4		1.042	1.035	89.2	1.025	"
	9.55	[illegible]	"	90		9.55		1.04	1.04	89.2	1.017	"
	10.55	[illegible]	"	92.5		97.		106.5	106.	101.7	7.7	"
	11.55	12.	"	95.2		99.			107.	103.	79.5	"
	11.55	12.	"	1.76	1.31	1.95	1.76	1.19	1.377	1.182		B. 10
				Discharge								
7/26/09	PM 12.00	0	40	1.42	1.43	1.43	1.427	1.40	1.392	1.432		
	.04	4	"	1.33	1.335	1.34	1.337	1.335	1.332	1.36		
	.10	10	"	1.305	1.307	1.31	1.31	1.31	1.31	1.332		
	.20	20	"	1.277	1.28	1.282	1.28	1.28	1.28	1.302		
	.40	40	"	1.242	1.25	1.24	1.245	1.25	1.242	1.262		
	1.00	60	"	1.22	1.22	1.227	1.237	1.22	1.215	1.225		
	1.00	60	"	1.01		1.035		111	110	1.04	0.15	Temp
	1.0	80	"	1.207	1.202	1.207	1.22	1.20	1.195	1.215		
	4.0	100	"	1.197	1.195	1.20	1.212	1.185	1.18	1.20		
	1.00	120	"	1.18	1.187	1.192	1.20	1.175	1.167	1.19		
	2.00	120	"	1.035		1.09		1.162	1.142	1.09	0.13	Temp
	1.0	140	"	118	118	118	119	116	1.155	118		
	4.0	160	"	1.187	1.187	116	117	1.132	112	116		

DATE	Time	Min	Min	482	466	467	468	404	488	398	Calc Temp
7/26/09	PM 200	180	40	1.14	1.14	1.144	1.146	1.11	1.10	1.147	
	300	180	"	1.062		1.122		1.20	1.124	1.114	84.2 Temp
	20	200	"	1.102	1.102	1.116	1.122	1.06	1.08	1.114	
	03	210	"	1.087	1.07	1.087	1.102	1.00	1.007	1.09	— 143.
	34	214	"					1.00			
	36	216	"						1.00		— 144.
	40	220	"	1.062	1.044	1.07	1.087	.97	.98	1.072	
	45	225	"	1.034	1.004 / 1.00	1.027	1.037	.872	.927	1.04	
	46	226	"				7.00				— 154.
	47	227	"								— 156.7
	50	230	"								— 158.
	100	240	"	1.00	.932	1.00 / .967	.80	.80	.782	1.044	— 160.
	4 00	240	"	1.062		1.147		1.27	1.227	1.122	84.7 Temp
	02	242	"							1.000	— 161.3
	06	246	"						.80		— 164.
	10	250	"	.977	.80	.92				.97	
	12	252	"			.80					— 168.
	15	255	"		.50						— 170.
	25	265	"	.92						.865	
	30	270	"	.850							
	35	275	"							.61	
	40	280	"	.85						.50	— 182.3
	45	285	"	.50							— 187.

DATE	TIME	MINUTES	482	466	467	468	404	488	398	Delta T
7/26/08		Change	180	193	182	216	166	270		
	4AM	30	114	122		135	121	124	847	Temp
	5AM	60	110	115		129	127	111	847	"
	6AM	120	105	111		125	124	112	845	"
	7AM	180	103	102		119	121	111	845	"
	8AM	240	100	104		117	115	108	845	"
	9AM	300	99	104		115	116	102	837	"
	10AM	360	97	1017		112	114	105	817	"
	11AM	420	96.5	103.2		111	113.5	105.5	81	
	11AM	420	175.5	182	177	174	176.7	174.2	176	
		Discharge								
7/27	12AM	0	140	149	144	143	141	140	143	
	.04	4	133.5	134	134	134	133.7	133.7	132	
	.10	10	131	131	131.2	131.5	131.7	131.5	133.5	
	.20	20	129	129	129	129	129	129	132	
	.40	40	125	125	125.5	126	125	125	132	
	1.00	60	122.2	122.5	123	124	122	122.2	124	
	1.00	60	99		105.5		112.2	115.2	105.5	80 Temp
	.20	80	121	121	121.5	123	120.5	120	122	
	.40	100	120	120	120.7	121.5	119	115.5	122	
	2.00	120	118	115.5	119	120	117	116.5	119	
	3.00	120	100		104.7		115	117	105.5	80 Temp
	.20	140	117	117.5	118	118.5	115.7	115.5	118	
	.40	160	114.5	116	116.5	117	115.7	115	116.2	

| DATE | TIME | | |

Notebook, N-10-07-23

DATE	TIME	MIN.	AMPS

July 23, 1910

46 Cells #210, #231 + #237

Cells taken from the Greyhound truck and returned at laboratory July 22, 1910.

These cells have had a service of 17,000 miles to date. These solutions were changed and measured on March - 1910.

Cells #210 + #237 have been refilled once since being in service

Cell #231 had been refilled once since being the service but does appear a leak of C.P.B. factory so was measured and filled with 21% KOH + 11.2 g. LiOH per liter

Cells returned Aug. 10, 1910.

DATE	TIME	MIN.	AMPS

July 23, 1910

46 #4931

Cell was taken from one of the Adams Express trucks - Owned by P. L. Brooklyn were it had been in regular service about 7 months. Shipped from C.P.B. factory Dec. 28-09

This cell was taken to test its electrolyte as it was thought that ordinary drinking water had been used regularly for filling.

Fresh solution - 21% KOH + 11.2 g. LiOH per liter of factory when cell was received from Brooklyn. After standing several days the solution was changed again, refilled with 21% KOH + 20 g. LiOH at the laboratory

A III

DATE	TIME	MIN.	AMP'S	VOLTS				TEMP				
				210	231	237	231	237	237	231	237	482.5
	P.M.			Discharge								
7/24/10	8.15	-	45	125	126	126	121					
	50	0	"	125	126	126	121					
	55	5	"	125	126	126	120					
	9.00	10	"	127	122	127	119					
	15	25	"	119	120	119	117					
	20	30	"	119	120	119	116	95	95	95	96	
	30	40	"	118	115	118	113					
	50	60	"	117	118	118	113					
	10.10	80	"	116	116	116	110					
	30	100	"	114	117	117	109					
	57	127	"	113	112	114	107					
	11.10	140	"	113	114	114	106					
	30	160	"	117	112	115	105					
	40	170	"				100					
	50	180	"	117	117	112	99					
7/25/10	P.M. 12.10	200	"	109	110	115	97					
	30	220	"	108	109	110	97					
	40	230	"	107	108	108	95	105	106	107	109	
	50	240	"	106	106	108	77					
	1.00	250	"				50	110				
	10	260	"	105	107	107						
	20	280	"	102	103	105						
	42	292	"	100	100							
	50	300	"	98	98	102						

A III

DATE	TIME	MIN.	AMP'S	V				T				SOLE
	A.M.			210	231	239	491					
7/25/10	2.00	310	45	97	97	100						-232.5
	10	320	"	92	95	97						
	20	330	"	89	92	94						
	30	340	"	87	88	92						
	50	360	"	80	83	86						
	3.10	380	"	72	79	81						
	30	400	"	62	77	80						
	32	break	"	50			112					-301.8
	40	410	"		75	77						
	50	420	"		69	72						
	57	427	"		50		114					520.2
	4.00	430	"			55			115			
	02	432	"			50				115		-523.6
	P.M.			Change #2.								
7/25/10	5.30	0	45			98	98	97	92	83		
	8.30	180	"			92	100	98				
	11.30	360	"			100	100	99				
	A.M. 2.30	540	"			103	106	105	102			
	5.30	720	"			108	111	110	110	93		
	8.30	900	"	114	117	116	109	111	110	109		-15 Ra
	P.M.			Discharge								
7/25/10	8.32	-	45	157	155	159	158					
	50	0	"	157	156	157	156					

A III

DATE	TIME	MIN.	AMP'S	V															
	P.M.			210	231	239	493												
7/25/10	8.37	2	45	140	140	140	140												
	40	5	"	1385	1372	1372	1368												
	45	10	"	1337	1342	1335	1336												
	55	20	"	1325	1322	1322	1314												
	9.05	30	"	1315	1305	1305	1305												
	15	40	"	1297	1297	1297	1290												
	35	60	"	1265	1267	1265	1257												
	55	80	"	1240	1245	1245	1255												
	10.15	100	"	1225	1227	1225	1224												
	35	120	"	1222	1222	1222	1222												
	55	140	"	1207	1211	1215	1215												
	11.15	160	"	1195	1197	1210	1157												
	35	180	"	1165	1165	1119	1131												
	55	200	"	1177	1178	1182	1178												
7/26/10	P.M. 12.15	220	"	1176	1162	1176	1165												
	35	240	"	1176	1176	1165	1162												
	55	260	"	1174	1174	1145	1145												
	1.15	280	"	1135	1131	1145	1142												
	35	300	"	1112	1115	1112	1112												
	55	320	"	1105	1102	1112	1111												
	2.15	340	"	1098	1098	1095	1077												
	35	360	"	1057	1057	1071	1022												
	55	380	"	1000	1092	1015	990												
	3.15	400	"		1000	1000													

— 317.5.2
— 317.5.3
— 317.5.5
— 317.5.7

A III

DATE.	TIME	MIN.	AMP'S	V										
	A.M			210	231	239	493	210	231	239	493			
7-26-10	3.05	390	45	97	95	97	66							
	.09	394					50							
	.15	400	"	915	88	90								1105 - Σ 317.5
	.25	410	"	857	765	795	—							
	.35	420	"	835	617	50								
	.36	417			50									— 316.5
	.40	425	"	50				114	116	113				— 316.7
														— 318.7
	A.M			CHARGE Nº 8										
7-26-10	6.35	0	45					95	90	90	67	25		
	10.56	255	"					93	88.2	97	86.7			
	P.M. 12.35	360	"					102	105	104.5	103.5	89		
	3.35	540	"					107	110	110	110	98		
	6.35	710	"					104	112	112	112	95		
	9.36	900	"	1162	1157	1157	1215	112	115	115	1137		15 Hrs	
	P.M.			DISCHARGE										
7-26-10	9.38	—	OFF	1.55	1.55	1.542	1.557							
	40	0	45	146	1457	146	146							
	42	2	"	1.402	140	140	1.405							
	45	5	"	1385	1382	1385	140							
	50	10	"	1.375	1.362	1.362	138							
	10.00	20	"	1.34	1.34	134	1.357							
	10	30	"	1317	132	1315	1.322							
	20	40	"	1.30	1.30	1.30	1.315							
	40	60	"	1.272	1.28	1.272	1.28							

A III

DATE	TIME	MIN.	AMP'S	VOLTS			TEMPS					
	P.M			210	231	239	4931	210	231			
7-26-10	11.00	80	45	1.25	1.26	1.255	1.26					
	20	100	"	1.235	1.242	1.237	1.245					
	40	120	"	122	1217	1202	122					
7-27-10	A.M. 12.00	140	"	1205	1217	1217	122					
	20	160	"	1197	120	120	120					
	40	180	"	1195	1197	120	120					
	1.00	200	"	118	1182	1185	1162					
	20	220	"	1177	1165	1182	118					
	40	240	"	1162	1157	1177	1167					
	2.00	260	"	1157	116	1162	116					
	20	280	"	1142	1142	1157	1145					
	40	300	"	1125	1137	114	1137					
	3.00	320	"	1117	112	1125	112					
	20	340	"	1097	110	1107	1062					
	30	350	"	1082	1097	110	1062					
	.40	360	"	1062	108	1082	102					
	.45	365					100					
	.50	370	"	1025	1042	1045	922				Jg 15 √	-273.7
	4.00	380	"	1002	102	102	665					
	01	381	"	1.00								-285.7
	03½	383½	"				50				1.11	-287.6
	07	387	"			100						-290.2
	08½	388½	"		100							-291.3
	10	390	"	982	987	982						
	20	400	"	90	925	92						
	30	410	"	82	86	835						
	40	420	"	50	76	517		1112				-315

A III.

DATE	TIME	MIN.	AMP'S									
	A.M.			210	231	239	4931					
7/27/10	4.41	421	45			50				1165		-315.7
	46½	421½	"	-	50	-	-		1155			-319.8

Charge # 4

DATE	TIME	MIN.	AMP'S									
	A.M.											
7/27/10	6.10	0	45					87	97	93	915	84
	9.10	180	"					100	102	1015	975	86
	P.M. 12.10	360	"					98	102	1015	110	
	3.10	540	"					1047	1087	108	1092	91
	6.10	720	"					108	1115	110	112	927
	9.10	900	"	176	1782	1777	183	107	1085	107	109	895
												15hr

Discharge

DATE	TIME	MIN.	AMP'S				
	T.M.						
7/27/10	9.13	open		1557	1557	155	156
	15	0	45	1457	145	1445	146
	17	2	"	140	1397	1395	140
	20	5	"	1365	1362	1365	138
	25	10	"	136	136	136	1375
	35	20	"	134	1337	133	1345
	45	30	"	131	1317	1305	1322
	55	40	"	130	130	1295	1305
	10.17	62	"	1262	127	1262	128
	35	80	"	1242	1255	1242	126

A III

DATE	TIME	MIN.	AMP'S										
				√									
	P.M.			210	231	239	4/931						
7/27/10	10.55	100	45	1217	1222	1222	1222						
	11.15	120	"	1217	122	122	1222						
	35	140	"	1197	1197	120	1202						
	55	160	"	1182	1195	1197	1197						
7/27/10	P.M. 10.15	180	"	115	1182	1185	1185						
	35	200	"	1177	1177	118	118						
	55	220	"	1162	1165	1175	1177						
	1.15	240	"	1157	116	116	116						
	35	261	=	1155	1157	1162	116						
	55	280	"	1137	1137	114	1142						
	2.15	300	"	112	112	1125	112						
	35	320	"	1102	1115	1117	1105						
	55	340	"	1082	1095	110	108						
	3.15	360	"	1087	1062	1065	1015						
	15	363	"				100						
	25	370	"	1022	1004	1045	90.						
	35	380	"	1015	1022	1025	96						
	36	381	"				80						
	37	382	"	100									
	46	385	"		100	100							
	55	390	"	96	98	98							
	55	400	"	90	92	917							
	4.05	410	"	785	84	80							
	125	4.125	"	50			1095						
	15	4.20	"		64	585							
	165	4.215	"			50			189				
	22	427	"		50					1085			

1035 - 285.7
- 285.7
- 285.7
- 315.7
- 315.7
- 322.2

A III

DATE	TIME	MIN.	AMP'S										
				√									
				210	235	237	4/931						
	P.M.			Charge # 5									
7/28/10	6.55	0	45	89	945	947	1047	√					
	8.55	120	"	95	935	935	84						
	11.55	360	"	100	992	997	100						
	P.M. 2.55	540	"	102	1037	1032	113	92					
	5.55	720	"				1102	112	112	113	127		
	8.55	900	"	112	114	113	114						
				116	116	1179	181						150
	P.M.			Discharge									
7/28/10	8.55	open		155	157	155	156						
	9.00	0	45	146	146	146	147						
	05	5	"	141	141	141	147						
	05	5	"	139	138	138	137						
	10	10	"	136	136	136	136						
	20	20	"	132	132	132	134						
	30	30	"	132	132	132	132						
	40	40	"	130	132	130	130						
	10.00	60	"	127	128	127	128						
	20	80	"	125	127	125	126						
	40	100	"	122	124	122	124						
	11.00	120	"	121	122	122	122						
	20	140	"	120	120	120	121						
	40	160	"	119	120	120	120						
	12.00	180	"	118	119	119	120						

A III

DATE	TIME	MIN.	AMPS	V	L-T									
	A.M.			110	331	237	1331							
7/29/10	12.20	200	45	115	115	115	1155							
	40	220	"	116	117	117	1177							
	1.00	240	"	116	116	117	1175							
	20	260	"	115	116	116	1162							
	40	280	"	115	115	116	116							
	2.00	300	"	115	115	117	1157							
	20	320	"	115	115	117	117							
	40	340	"	110	111	117	1092							
	3.00	360	"	105	105	105	1100							
	10	370	"	103	107	106	90							
		375					70							
	20	380	"	100	106	106	70							
	21	381	"	100										
	30	390	"	95	105	105	100							
	40	400	"	88	90	90	90							
	50	410	"	75	90	87								
	56	416	"	60										
	4.00	420	"		85	56								
	05	425	"											
	10	430	"		63	50								
	15	435	"		50									
7-29-10	A.M.	Blue		Charge # 6										
	7.00	0	45					87	88	90	95	88.7		
	10.00	3	"											
	P.M. 2.20	7	"	107	106	107	105	100	101	103	104	103.5		

DATE	TIME	MIN.	AMPS	V	L-T									
				110	331	237	1331							
7-29-10	P.M.			Discharging										
	23		45	135	135	135	1357							
	28	0	45	145	142	142	1427							
	27	1	"	137	138	138	140							
	30	5	"	132	137	137	1376							
	35	10	"	133	134	134	136							
	45	20	"	133	132	132	134							
	55	30	"	131	130	130	1322							
	305	40	"	130	127	128	1305							
	15	50	"	126	125	125	1277							
	45	80	"	124	124	124	1242							
	400	100	"	123	123	123	125							
	25	120	"	121	121	122	1237							
	45	140	"	120	120	120	1222							
	500	160	"	118	118	119	1217							
	25	180	"	117	117	117	120							
	45	200	"	116	116	116	120							
	600	220	"	114	114	114	118							
	25	240	"	112	115	112	1177							
	45	260	"	103	101	102	1162							
	48	262	"		100									-177.2
	51	265	"			100								-175.5
	55	270	"	100	93	95	1037							
	58	273	"		90									
	700	275	"			90							119	-2.6
	15	285	"	134									116	-2.6
					142									

A III

DATE	TIME	MIN.	AMP'S	VOLTS				TEMPS				
				210	221	229	4921	210	221	229	4921	
7-29-10	PM .15	290	.45	1112			114					— 158
	.15	300	"	975			112					
	.35	310	"	905			1032					— 232.2
	.35	310	"	880			1020					— 2 2 0
	.45	310	"				90				1113	— 24.56
	.57	2202	"									
				Charge ?								
7/29/10	PM .05	0	.45	1457	1.60	1.62	1.62	1.06	1.05	1.037	1.045	
	.27	2	"	1.52	1.56	1.52	1.555					
	.30	5	"	1.55	1.58	1.58	1.565					
	.35	10	"	1.597	1.597	1.585	1.555					
	.45	30	"	1.597	1.617	1.604	1.622					
	.55	30	"	1.602	1.622	1.612	1.657					
	1.05	40	"	1.617	1.637	1.635	1.662					
	.25	60	"	1.642	1.66	1.657	1.642					
	.45	80	"	1.662	1.657	1.66	1.64					
	11.05	100	"	1.662	1.645	1.65	1.655					
	.25	120	"	1.662	1.657	1.657	1.647					
	.45	140	"	1.665	1.657	1.657	1.642					
7/30-10	AM .05	160	"	1.677	1.662	1.662	1.657					
	.25	180	"	1.672	1.66	1.66	1.657					
	.45	200	"	Equipment power failure had to restart over								
	.05	220	"	1.677	1.677	1.677	1.665					

A III

DATE	TIME	MIN.	AMP'S	VOLTS				TEMPS				
				210	221	229	4921	210	221	229	4921	
	AM											9 dec
7/30-10	.05	240	.45	1.68	1.67	1.677	1.675					
	.15	260	"	1.682	1.682	1.68	1.65					
	.25	280	"	1.697	1.697	1.692	1.697					
	.35	300	"	1.697	1.70	1.697	1.702					
	.45	320	"	1.702	1.712	1.705	1.705					
	.05	340	"	1.70	1.712	1.71	1.707					
	.25	360	"	1.70	1.72	1.72	1.76					
	.45	380	"	1.716	1.757	1.755	1.802					
	.35	400	"	1.715	1.74	1.737	1.817					
	.25	420	"	1.722	1.755	1.757	1.835					— 7R
	PM			Discharge								
7/30/10	.25	Open		1.562	1.562	1.56	1.55					
	.30	0	.45	1.48	1.465	1.462	1.482	97	97	96	94	
	.32	2	"	1.40	1.40	1.40	1.40					
	.35	5	"	1.38	1.377	1.38	1.38					
	.40	10	"	1.36	1.36	1.36	1.36					
	.50	20	"	1.327	1.325	1.325	1.327					
	5.00	30	"	1.315	1.305	1.307	1.312					
	.10	40	"	1.27	1.272	1.27	1.275					
	.30	60	"	1.262	1.255	1.262	1.275					
	.50	80	"	1.255	1.252	1.252	1.252					
	6.10	100	"	1.247	1.222	1.22	1.222					
	.30	120	"	1.225	1.22	1.22	1.232					

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	221	239	491	TEMPS 210	221	239	491	1012
	P.M.											
	6.50	140	45	120	120	121	121					
7/30/10	7.10	160	"	(1.177)	1.187	1.189	1.200					
	.30	180	"	1.177	1.185	1.195	1.202					
	.50	200	"	1.162	1.174	1.184	1.195					
	8.10	220	"	1.154	1.175	1.174	1.182					
	.30	240	"	1.14	1.16	1.162	1.172					
	.50	260	"	1.15	1.145	1.147	1.157					
	9.10	280	"	1.095	1.135	1.127	1.132					
	.30	300	"	1.047	1.087	1.10	1.107					
	40	310	"	1.062	1.08	1.08	1.092					
	45	315	"	1.0								
	45	315	-				9.0					
	50	320	-	994	1.055	1.05						
	10.00	330	-	925	1.000	1.002						
	.01	331	-			100						
	.02	332	-		100							
	.03	333	-	30								
	.10	340	-		945	997						
	.15	345	-		90	98						
	.15	345	-		90							

OH 4/25/11

Ferrule 3+ Cm

one Pathway, failing

A III

8

DATE	TIME	MIN.	AMP'S	VOLTS 210	221	239	491	1012	TEMPS 210	221	239	491	1012
	P.M.												
7-31-10				Charge #8									
	8.20	0	45	1.48	1.566	1.567	1.502	835	835	837	842	835	
	.22	2	"	1.58	1.617	1.615	1.60						
	.25	5	"	1.617	1.64	1.635	1.62						
	.30	10	"	1.637	1.66	1.645	1.645						
	48	28	"	1.65	1.69	1.657	1.687						
	.50	30	"	1.657	1.695	1.661	1.70						
	9.00	40	"	1.677	1.705	1.695	1.692						
	.20	60	"	1.685	1.70	1.70	1.68						
	.40	80	"	1.702	1.702	1.697	1.677						
	10.00	100	"	1.70	1.68	1.682	1.662						
	.20	120	"	1.68	1.68	1.68	1.661						
	.40	140	"	1.68	1.677	1.677	1.661						
	11.00	160	"	1.685	1.682	1.682	1.672						
	.20	180	"	1.687	1.682	1.682	1.675	922	947	942	913	84	
	.40	200	"	1.69	1.687	1.684	1.68						
	A.M.												
8-1-10	12.00	220	"	1.687	1.682	1.684	1.682						
	.20	240	"	1.687	1.687	1.682	1.687						
	.40	260	"	1.692	1.692	1.685	1.687						
	1.00	280	"	1.70	1.687	1.687	1.705						
	.20	300	"	1.702	1.702	1.70	1.722						
	.40	320	"	1.705	1.715	1.702	1.74						
	2.00	340	"	1.717	1.715	1.71	1.722						

DATE	TIME	MIN.	AMP'S	210	201	209	4910	210	201	209	4910	210	201	209	4910		
	AM																
8-1-10	2.20	360	25	1.72	1.727	1.72	1.787										
	40	320	"	1.727	1.734	1.731	1.921										
	3.00	400	"	1.735	1.741	1.741	1.835										
	20	420	"	1.742	1.745	1.745	1.84	1.01	1.01	1.01	1.97	1.83					
	A.M			DISCHARGE													
8-1-10	3.45	—	OPEN	1.567	1.567	1.565	1.575										
	25	0	45	1.461	1.461	1.46	1.467										
	47	2	"	1.401	1.401	1.401	1.405										
	30	5	"	1.385	1.381	1.381	1.382										
	35	10	"	1.362	1.36	1.362	1.362										
	45	20	"	1.337	1.332	1.337	1.34										
	55	30	"	1.317	1.307	1.307	1.317										
	4.05	40	"	1.297	1.297	1.297	1.301										
	25	60	"	1.265	1.267	1.267	1.281										
	45	80	"	1.242	1.245	1.242	1.26										
	5.05	100	"	1.222	1.221	1.222	1.242										
	25	120	"	1.205	1.222	1.22	1.23										
	45	140	"	1.197	1.201	1.201	1.221										
	6.05	160	"	1.182	1.185	1.187	1.267										
	25	180	"	1.175	1.182	1.185	1.24	1.00	1.03	1.015	9.9	1.92					
	45	200	"	1.165	1.163	1.163	1.195										
	7.05	220	"	1.160	1.160	1.162	1.182										
	25	240	"	1.158	1.155	1.157	1.18										

DATE	TIME	MIN.	AMP'S	V	0	1	2	3	4	5	6	7	8	
				210	201	209	4910	210	201	209	4910			
	AM													
8-1-10	7.45	260	45	1.132	1.155	1.157	1.167							
	8.05	280	"	1.092	1.112	1.112	1.152							
	25	300	"	1.057	1.10	1.092	1.082							
	45	318	"				1.00							-238.5
	9.05	320	"	1.012	1.065	1.06	.962							
	25	339	"	1.00										-243.
	.58	340	"				.90					101		-244.5
	.53	330	"	.95	1.002	1.05								-252
	9.01	332	"			1.00								
	.05	332	"											-253.5
	.15	340	"	.95	.983	.97								
	10	342	"					.96						-258
	.15	350	"		.992	.915								
	17	352	"			.90						1.055		-264
	25	355	"		.90						1.09			-268.5
				Charge #9										
	AM													
8-1-10	10.45	6	45	1.395	1.397	1.392	1.397	.95	.89	.895	.88	.99		
	47	2	"	1.392	1.395	1.397	1.398							
	50	5	"	1.392	1.392	1.392	1.392							
	55	10	"	1.397	1.397	1.402	1.422							
	11.05	20	"	1.612	1.62	1.622	1.662							
	15	30	"	1.624	1.64	1.64	1.672							
	25	40	"	1.651	1.662	1.66	1.68							
	45	60	"	1.665	1.672	1.68	1.66							
	PM													
	12.05	80	"	1.68	1.662	1.677	1.655							
	25	100	"	1.677	1.66	1.68	1.652							
	45	120	"	1.67	1.67	1.66	1.67							
	1.05	140	"	1.67	1.67	1.67	1.67							

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	237	498	TEMP 210	231	237	498	STOP
	PM											
8-1-10	1.25	120	56	165	166	166	166					
	.45	180	"	166	166	166	166					
	2.05	200	"	165	166	166	165					
	.25	220	"	165	166	166	167					
	.45	240	"	167	167	167	168					
	3.05	260	"	168	167	167	169					
	.25	280	"	168	168	168	170					
	.45	300	"	168	168	167	172					
	4.05	320	"	169	169	169	172					
	.25	340	"	170	170	170	172					
	.45	360	"	170	170	170	175					
	5.05	380	"	171	172	172	177					
	.25	400	"	172	172	172	182					
	.45	420	"	174	176	176	183	100	108	101.5	102	7hm
8-1-10	PM			Lockange								
	5.48	Open	55	156	156	155	156					
	.50	0	45	147	146	146	147					
	.52	2	"	150	150	150	150					
	.55	5	"	158	158	158	158					
	6.00	10	"	161	161	161	165					
	.15	25	"	122	122	122	127					
	.25	35	"	120	120	120	131					
	.35	45	"	118	118	118	140					

A III

DATE	TIME	MIN.	AMP'S	210	231	237	498	210	231	237	498	Sale
8/1/10	6.45	55	45	127	128	127	127					
	7.05	75	"	125	126	126	127					
	.25	95	"	120	124	124	122					
	.45	115	"	127	122	122	127					
	8.05	135	"	120	125	125	122					
	.25	155	"	125	120	120	122					
	.45	172	"	118	119	119	120.5	108	108.5	108.5	108.5	64
	9.05	195	"	116	118	118	119					
	.25	215	"	115	116.5	117.5	119					
	.45	235	"	114	115.7	116	117					
	10.05	255	"	112	114.2	114.2	116					
	.25	275	"	110	112	112.2	114					
	.35	285	"	109	111	111.2	114					
	.45	295	"	108	110.2	110.2	111.5	106	108.5	110	108.5	
	11.00	310	"	105.5	109.5	110	107.5					
	.05	315	"	104.2	108.2	108.7	106.7					
	.12	322					100					
	.15	325	"	100.2	108.7	108.6	106.7					
	.17	327		100								
	.23	333	"				90					
	.25	335	"	96.1	102	102.2						
	.27	337	"		100							
	.29	339	"				100					
	.35	345	"	89.7	99.7	99.7						
	.37	347	"	90								
	.45	355	"		99.5	99.5						
	.50	360	"		90			111.2	115	115	108	

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	1493	TEMPS 210	231	239	1493	1062
	A.M			CHARGE # 10								
8-2-10	1.50	0	45	1.48	1.485	1.502	1.507	92	95	95	91	82.5
	55	2	"	1.545	1.545	1.56	1.575					
	55	5	"	1.582	1.582	1.587	1.62					
	2.00	10	"	1.605	1.612	1.607	1.662					
	10	20	"	1.617	1.64	1.637	1.665					
	20	30	"	1.64	1.662	1.642	1.70					
	30	40	"	1.647	1.662	1.662	1.682					
	50	60	"	1.68	1.682	1.685	1.667					
	3.10	80	"	1.68	1.665	1.672	1.655					
	30	100	"	1.67	1.662	1.665	1.657					
	50	120	"	1.682	1.665	1.667	1.662					
	4.10	140	"	1.672	1.665	1.657	1.662					
	30	160	"	1.675	1.662	1.662	1.662					
	50	180	"	1.675	1.667	1.667	1.657	92.2	96.2	95	92	82.2
	5.10	200	"	1.68	1.672	1.672	1.675					
	30	220	"	1.672	1.677	1.68	1.682					
	50	240	"	1.682	1.682	1.682	1.682					
	6.10	260	"	1.682	1.682	1.682	1.69					
	30	280	"	1.675	1.672	1.677	1.67					
	50	300	"	1.69	1.69	1.687	1.82					
	7.10	320	"	1.693	1.693	1.693	1.777					
	30	340	"	1.702	1.702	1.70	1.702					

A. III

10

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	1493	TEMPS 210	231	239	1493	1062
8-2-10	AM 7.50	360	45	1.72	1.725	1.72	1.805					
	8.10	380	"	1.732	1.742	1.73	1.825					
	30	400	"	1.742	1.72	1.735	1.84					
	50	420	"	1.72	1.72	1.725	1.845					72
				DISCHARGE								
8-2-10	AM 8.55	—	OPEN	1.577	1.577	1.575	1.58					
	55	0	45	1.47	1.47	1.462	1.48	96	98.5	99	96.2	80
	57	2	"	1.415	1.412	1.417	1.46					
	9.00	5	"	1.40	1.392	1.382	1.375					
	05	10	"	1.36	1.372	1.362	1.375					
	15	20	"	1.345	1.34	1.342	1.345					
	25	30	"	1.32	1.317	1.317	1.322					
	35	40	"	1.305	1.302	1.302	1.311					
	45	50	"	1.282	1.277	1.275	1.29					
	10.15	80	"	1.242	1.252	1.245	1.252					
	35	100	"	1.22	1.225	1.222	1.242					
	55	120	"	1.202	1.22	1.217	1.225					
	11.15	140	"	1.20	1.21	1.205	1.222					
	35	160	"	1.197	1.20	1.197	1.215					
	55	180	"	1.187	1.187	1.187	1.22	101	103.5	101	96.5	81
	12.15	200	"	1.165	1.192	1.18	1.197					
	35	220	"	1.155	1.167	1.162	1.185					
	55	240	"	1.152	1.17	1.16	1.177					

Cell #10

A III

DATE	TIME	MIN.	AMP'S	VOLTS #10	#231	#239	#1931	TEMPS #10	#231	#239	#1931	
5-2-10	11.5	260	45	112.5	1845	1182	1162					
	.35	280	-	110	112	112	114					
	.55	300	-	1077	1101	110	111					
	1.05	310	-	104	1071	1065	1057					
	12	318	-				100					
	.15	320	-	1017	1057	1047	98					
	17	324	-	100								
	34	339	-				90				1096	-2387
	.35	330	-	99	1005	1045						
	37	3345	-			100						-2387
	345	3372	-		100							-2387
	35	340	-	94	950	95		622				-2617
	352	342	-	90								
	45	350	-		95	93				1117		-2617
	48	353	-			90						
	52	358	-	—	90			—	1147			-2685

Charge #11

DATE	TIME	MIN.	AMP'S	VOLTS #10	#231	#239	#1931	TEMPS #10	#231	#239	#1931	
8/2/10	PM 1.35	0	45	164	1662	1647	1656	97	99.2	94	88.6	84
	.40	5		1622	1622	1657	1658					
	.50	10		154	1560	1577	160					
	.55	10		158	1602	1602	1632					
	2.00	20		1600	1612	1612	164					
	.05	30		162	1612	1613	1624					
	.10	40		1624	1627	1627	1657					
	.15	50		162	1662	1662	1664					

A III

11

DATE	TIME	MIN.	AMP'S	Cells #10	#231	#239	#1931	Temps #10	#231	#239	#1931	
8/2/10	PM 5.40	80	40	165	1662	164	165					
	6.00	100	"	165	1652	1662	1655					
	.25	120	"	168	166	1662	166					
	.40	140	"	166	1645	1655	1662					
	7.00	160	"	166	1655	1657	1657					
	.25	180	"	1662	1652	166	166	95	095	96	92	82
	.40	200	"	1661	166	166	1665					
	8.00	220	"	167	1661	1661	1668					
	.25	240	"	168	1677	1671	169					
	.40	260	"	168	168	168	170					
	9.00	280	"	1691	169	169	1715					
	.25	300	"	170	170	1697	1715					
	.40	320	"	1701	1702	170	1755					
	10.00	340	"	171	171	1717	1781	94	97	94	92.2	79.7
	.25	360	"	172	1712	172	1815					
	.40	380	"	173	1741	1737	1835					
	11.00	400	"	1745	1741	1755	1844					
	.25	420	"	1761	178	1765	184					
	.40	440	"	1761	1781	1775	1844	Stop on the 15th				
8/3/10	AM 12.00	460	"	1761	1785	178	184	Cell reading				
	.25	480	"	1775	1787	178	1842					
	.40	500	"	178	1787	178	184					
	1.00	520	"	178	1787	178	184	101	104	106	102	91

A III

DATE	TIME	MIN.	AMP'S	V 210	231	239	495	210	231	239	495	210	231	239	495
	A.M														
8-2-10	125	540	45	1.782	1.795	1.782	1.782								
	45	600	"	1.782	1.794	1.777	1.84								
	205	680	"	1.78	1.79	1.777	1.84								
	25	600	"	1.782	1.795	1.78	184								
	45	640	"	1.782	1.795	1.78	1.84								
	305	640	"	1.782	1.792	1.78	1.777								
	25	660	"	1.78	1.795	1.78	1.805								
	45	650	"	1.78	1.787	1.775	1.835								
	405	700	"	1.777	1.795	1.787	1.815								
	25	710	"	1.782	1.777	1.782	1.82								
	45	740	"	1.787	1.79	1.782	1.82	1.82	1.10	1.07	1.065				
	505	760	"	1.78	1.787	1.777	1.825								
	25	790	"	1.782	1.782	1.77	1.822								
	45	800	"	1.782	1.79	1.77	1.822								
	605	810	"	1.78	1.805	1.775	1.825								
	25	840	"	1.78	1.782	1.775	1.82								
	45	850	"	1.78	1.782	1.777	1.822								
	705	890	"	1.782	1.79	1.78	1.822								
	25	900	"	1.775	1.78	1.762	1.82	1.07	1.101	1.075	1.062	812			
				Discharge											
	AM														
8-3-10	728	—	0	1.555	1.555	1.552	1.561								
	30	0	75	1.462	1.42	1.457	1.462								
	45	20	"	1.462	1.462	1.462	1.462								

A III

11

DATE	TIME	MIN.	AMP'S	V 210	231	239	495	210	231	239	495		
				LTS				TEMP					
8-3-10	AM 735	5	45	1.362	1.362	1.362	1.365						
	40	10	"	1.365	1.362	1.362	1.365						
	50	20	"	1.367	1.367	1.367	1.365						
	800	30	"	1.32	1.325	1.322	1.34						
	10	40	"	131	1.315	1.312	132						
	30	60	"	128	1.285	128	129						
	50	80	"	1.22	1.26	1.255	1.265						
	910	100	"	1.237	1.24	1.27	1.255						
	30	120	"	1.22	1.235	1.30	1.35						
	50	140	"	1.25	1.22	1.32	1.325						
	1010	160	"	1.30	1.25	1.25	1.32						
	30	180	"	1.77	1.302	1.30	1.42	1.07	1.12	1.085	1.05		
	50	200	"	1.185	1.195	1.197	1.20						
	1110	220	"	1.177	1.07	1.19	1.19						
	30	240	"	1.17	1.18	1.18	1.182						
	50	260	"	1.16	1.170	1.18	1.18						
	PM 1210	280	"	1.142	1.16	1.162	1.165						
	30	300	"	1.132	1.15	1.15	1.15						
	50	320	"	1.12	1.13	1.32	1.35						
	110	340	"	1.09	1.115	1.12	1.16						
	30	360	"	1.052	1.095	1.095	1.095	1.12	1.145	1.12	1.09	85	
	50	380	"	1.055	1.07	1.082	1.07						
	210	400	"	1.055	1.055	1.06	1.05						

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	
8/3/10	P.M. 2.01	391	45				50					-293.2 113 85
	.04½	397½	"		100							-298.1
	.10	400	"	914	985	100						-300
	20	410	"	857	945	955						
	.33	423	"	71	88	88						
	.38	428	"	50				118				-321
	.40	430	"		84	82						
	.50	440	"		78	72 50						
	.58½	448½	"							118		-336.3
	3.00	450	"		62							
	.02½	452½	"		50				117			-339.3 .852

Charge #12

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	
	P.M. 3.45	-	45					92	94	100	89	85
8/3/10	6.45	3	"					95	101	101	94	837
	9.45	6	"					985	1035	100	99	837
8/4/10	A.M. 12.45	9	"					1005	105	1032	103	822
	3.45	12	"					104	108	106	106	82
	6.45	15		1755	1787	1772	1827	1022	107	1065	1042	81
												- 15 hr

DISCHARGE

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	
8-4-10	A.M. 6.48	-	open	1575	157	1562	1577					
	50	0	45	1462	148	1475	1462					
	52	2	"	142	142	1415	142					

12

A III

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931	Temps 210	231	249	4931	Cd
8-4-10	P.M. 6.55	5	45	1397	1395	1395	1395					
	7.00	10	"	1377	1375	1372	138					
	10	20	"	1345	1342	1342	1347					
	20	30	"	133	1332	1325	1335					
	30	40	"	1302	1302	1302	1307					
	50	60	"	1277	1262	128	1267					
	8.10	80	"	125	1257	1257	1262					
	30	100	"	1232	1242	124	1247					
	50	120	"	1207	122	1217	122					
	9.10	140	"	1202	1215	1212	1217					
	30	160	"	1195	1205	1207	1212					
	50	180	"	118	1187	1187	1195	103	107	106	101.5	-79.5
	10.10	200	"	1175	118	1182	1185					
	30	220	"	1162	1175	1175	118					
	50	240	"	1157	1162	1165	1165					
	11.10	260	"	1155	1162	1162	1162					
	30	280	"	1137	1147	1152	1152					
	50	300	"	1127	1142	1142	1142					
	P.M. 12.10	320	"	1115	1132	1132	1125					
	30	340	-	109	111	1112	110					
	50	360	-	1085	109	1095	105					
	1.00	370	-	104	1092	1075	100			-277.85		
	10	380	-	1012	105	105	862					
	15½	385½	-	100		1.0				-257.11		

A III

DATE	TIME	MIN.	AMP'S	Volts 210	201	209	4930	Temps 210	201	209	4930	Rec
8-4-10	PM 12.0	233	46	96	103	1025	56 50	1055	111	110	102 107	82
	.22½	3314	"									-2742
	3.00	3325	"			100						-2786
	25	3315	"		100							-2785
	30	4100	"	915	995	98						
	40	4.10	"	831	94	922						
	50	4.20	"	56 50	86	82						
	3.15	4.35	"					1112				-3161
	2.00	4.30	"		76	65 50					1125	-3250
	.05	4.35	"									
	.09	4.39	"		50			1105				-3284
						Discharge # 13						
8/4/10	PM 3.30	0	1/0					88	94	94	92	832
	6.30	3	"					922	94	95	90	84
	9.30	6	"					922	97	963	91	1835
8/5/10	AM 3.30	9	"					95	975	952	945	80
	3.30	12	"					1015	105	1022	1017	818
	6.30	15	"	1182	1182	1182	1165	1101	107	107	108	817
						Discharge 2						
8/5/10	AM 6.00	0	1/0	1152	1152	1152	1158					
	15	0	"	1149	1149	1149	1149					
	30	2	"	1141	1142	1142	1142					
	40	5	"	1138	1142	1142	1142					

A III 13

DATE	TIME	MIN.	AMP'S	Volts 210	201	209	4930	Temps 210	201	209	4930	Rec
8/10	AM 6.45	10	1/5	1275	1265	1262	1267					
	55	20	"	1.24	1.24	1.24	1.24					
	7.05	30	"	1.237	1.22	1.22	1.22					
	15	40	"	1.20	1.20	1.20	1.202					
	25	60	"	1.175	1.18	1.177	1.182					
	35	80	"	1.152	1.157	1.155	1.16					
	6.15	100	"	1.132	1.137	1.132	1.22					
	25	120	"	1.122	1.125	1.122	1.122					
	35	140	"	1.102	1.105	1.107	1.112					
	9.15	160	"	1.20	1.205	1.205	1.205					
	25	180	"	1.135	1.20	1.20	1.20	1.002	118	116	1005	82
	35	200	"	1.18	1.19	1.19	1.185					
	10.15	220	"	1.17	1.18	1.18	1.18					
	25	240	"	1.162	1.18	1.18	1.178					
	35	260	"	1.16	1.165	1.17	1.16					
	11.15	280	"	1.145	1.16	1.16	1.15					
	25	300	"	1.14	1.142	1.142	1.142					
	35	320	"	1.132	1.135	1.135	1.13					
	PM 12.15	340	"	1.09	1.115	1.10	1.08					
	25	360	"	1.122	1.105	1.11	1.03					
	35	380	"	1.062	1.095	1.10	1.02					-2741
	45	400	"	1.037	1.085	1.085	1.02					
	55	420	"	1.025	1.065	1.065	1.05					

A III

DATE	TIME	MIN.	AMP'S		No. 18						Terminals				
	P.M.			210	221	229	.993	210	221	229	.993	Idle			
8/5/10	1.05	390	45	.997	1.04	1.05	.50	1.06			3.92.5				
	.15	400	"	.925	1.015	1.01									
	.18	403	"	—		1.00	—				3.92.2				
	.20	405	"	—	1.00	—	—				3.92.7				
	.25	410	"	.86	.99	.966	—								
	.35	420	"	.787	.92	.897	—								
	.42	427	"	.50	—		—	1.12			3.92.2				
	.45	430	"	—	.955	.80	—								
	.55	440	"	—	.745	.60									
	2.02	447	"			.50			1.12		3.92.2				
	2.05	450	"		.54										
	.06	457	"		.50			1.12			3.92.2				

Cells sulfated —
Plates good
Aug. 10, 1910 3 Recharged 10 hours
@ 60 Amps. and were
then returned to the
Reg. Board Testing
(August 10, 1910)

DATE	TIME	MIN.	AMP'S

DATE	TIME	MIN.	AMP'S

November 22d 1910.

C P cell #1682

Regular cell, of average capacity, from stock of Storage Battery Co. and in laboratory the special tray for short test (see page 85 - Guidemann Readings, Feb. Vol. II)

This cell was charged 2 p.m. 8.00 times and when opened for the last time was found that the bottom had sagged about 1/16" out of line

This cell had the regular thin paring insert H.R.C. Pb.

A I (2)

DATE	TIME	MIN.	AMP'S	V.	T.
				1682	1682
				Charge #4	
11-2-10	P.M.				
	1.40	0	6.		75.4
11-3-10	P.M. 1.10	3	.		82
	4.10	6	.		95.5
	7.10	9	.		99.2
	10.10	12	.		103
	P.M. 11.10	15	.	1.87	104
					1.8
				Discharge	
11-5-10	P.M. 11.3	—	5/60	1.542	
	15	0	60	145	
	17	2	—	1.365	
	20	5	—	1.35	
	25	10	—	1.335	
	35	20	—	1.27	
	45	30	—	1.187	
	55	40	—	1.177	
	2.15	50	—	1.159	
	35	80	—	1.215	
	55	100	—	1.127	
	3.15	120	—	1.102	
	35	140	—	1.097	
	55	160	—	1.187	

AV (2)

DATE	TIME	MIN.	AMP'S	Volts	Temps
	Pm			1162	1162
1/2	1.15	180	60	1167	
	.35	200	"	116	1045
	.55	220	"	1162	
	5.15	240	"	1161	
	.35	260	"	1157	
	.55	280	"	1162	
	6.15	300	"	1112	
	.35	320	"	1082	
	.45	330	"	1072	
	.55	340	"	1059	
	7.05	350	"	1047	
	.15	360	"	1035	
	.25	370	"	76	
		372.00		35.0	
	.55	380	"	-29	1105
	P.M			CHARGE #5	
11-3-10	10.20	10	60		97
11-4-10	1.20	3	"		915
	4.20	6	"		905
	7.20	9	"		94
	10.20	12	"		965
	AM 1.20	15	"	180	1077

-357

97.2
98.5
97.8

OK

AV

DATE	TIME	MIN.	AMP'S	V-	T-
				1162	1162
				10 is charge	
11-4-10	PM 123	—	0	1547	
	.25	0	60	1445	
	.27	2	"	1375	
	.30	5	"	1327	
	.35	10	"	134	
	.45	20	"	1313	
	.55	30	"	1292	
	2.05	40	"	1282	
	.25	60	"	126	
	.45	80	"	124	
	3.05	100	"	1223	
	.25	120	"	1215	
	.45	140	"	120	
	4.05	160	"	119	
	.25	180	"	118	104
	.45	200	"	117	
	5.05	220	"	116	
	.25	240	"	1147	
	.45	260	"	1142	
	6.05	280	"	1137	
	.25	300	"	1115	
	.45	320	"	1087	

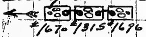
A V ②

DATE	TIME	MIN.	AMP'S	V	T—		
				1682	1682 [illegible]		
11/2/10	P.M. 6 55	330		1075			
	7 05	340		1055			
	15	[illegible]		1017			
	18	353		100			-353
	25	360		925			
	34½	369½		56	1072	OK [illegible]	-369.5
	45	[illegible]					

11-4-10 Disconnected from Board and set aside.

an average sized laborer could give it.

Tray was given 435 <u>end</u> bumps with cells in the following positions and in direction marked



After this test, the tray was given 100 <u>side</u> bumps.

November, 1st, 1910

A 8 Cells
#1315-#1670-#1696

This set of cells were taken from the regular stock of E. S. B. Co.

Filling with 21% K.O.H + 50 g. LiOH per A8 cell, it had the three regular forming runs of Commercial Testing Department.

Cells were mounted in a special tray designed by T.A.E. which in turn was mounted on a four wheeling truck in such a way as to hold it upright and also give it a small amount of play both longthwise and sidewise.

Truck was run, a distance of 10 feet, into a concrete wall with all the force

— See opposite page —

A II (2)

DATE	TIME	MIN.	AMP'S	1315 V	1670 V	1696 V	1315 T	1670 T	1696 T				
	AM			Charge #4									
	5.00	0	60			872	775	767					
11/1/10	8.00	3	"			86	86	86					
	11.00	6	"			905	915	925					
	PM 2.00	9	"		1805	9[illegible]/95	91						
	5.00	12	"			99	995	997					
	8.00	15	"	182	1807	997	1005	1012					
	PM			Discharge									
11/7/10	8.00	0(new)		152	1555	1562							
	05	0	60	1415	1415	1414							
	07	2	"	136	136	1357							
	10	5	"	131	131	1332							
	15	10	"	133	132	1325							
	25	20	"	131	131	1327							
	35	30	"	1295	1295	1292							
	45	40	"	1282	1285	1282							
	9.05	60	"	1245	1255	1245							
	25	80	"	1235	1237	1235							
	45	100	"	119	120	1192							
	10.05	120	"	1185	1185	1182							
	25	140	"	1185	1182	1182							
	45	160	"	1182	1172	118							
	11.05	180	"	1[illegible]	1[illegible]	1167	1[illegible]	1[illegible]	1[illegible]				

A V (2)

DATE	TIME	MIN.	AMP'S	1315 V	1670 V	1696 V	1315 T	1670 T	1696 T				
	PM												
11.7.10	11.25	200	60	1.155	1.155	1.162							
	45	220	"	1.147	1.147	1.157							
	AM												
11.8.10	12.05	240	"	1.14	1.137	1.14							
	25	260	"	1.122	1.122	1.127							
	45	280	"	1.117	1.117	1.125							
	1.05	300	"	1.16	1.097	1.112							
	25	320	"	1.062	1.057	1.097							
	35	330	"	1.057	1.052	1.082							
	45	340 (345)		1.037 (1.037)	1.04	1.082							
	55	350		962	100	1.057							
	2.05	360 (1.12 / 3.67)	"	937 (1.00)	96	1.037	1.057	1.082	1.037				
	15	370 (370)	"		892	1.02 (1.050)							
	25	380 (2.7 / 382)		—	507 (50)	977							
	35	390	"			955		1117					
	44	399				50			102				
	AM			CHARGE #5									
11.8.10	7.00	0	60				90	92	905				
	10.00	3	"				945	96	95				
	PM 1.00	6	"				96	97	955				
	4.00	9	"				1012	1012	99				
	7.00	12	"				1027	1037	101				
	10.00	15	"	1.037	1.017	1.037	100	100	977				

- 343.0
- 350.0
- 362.5
- 373.0
- 381.0
- 399.5

(OK with 1.7)

A V

DATE	TIME	MIN.	AMP'S	Volts 1315	Volts 1570	Volts 1696	Temp 1315	Temp 1670	Temp 1696
11-8-10	P.M.			Discharged					
	10 03	0 (Rest)		158	158	158			
	05	0	60	146	145	145			
	07	2	"	135	137	135			
	10	5	"	137	137	137			
	15	10	"	137	137	137			
	20	20	"	137	137	135			
	25	30	"	132	138	135			
	45	40	"	128	128	128			
	11 05	60	"	124	124	124			
	25	80	"	125	125	125			
	45	100	"	125	125	125			
11-9-10	A.M. 12 05	120	"	122	122	122			
	25	140	"	127	127	125			
	45	160	"	127	122	127			
	1 05	180	"	122	125	127			
	25	200	"	122	122	126			
	45	220	"	125	127	125			
	2 05	240	"	127	127	122			
	25	260	"	125	125	127			
	45	280	"	122	122	125			
	3 05	300	"	1095	1095	1115			
	15	310	"	1089	1080	1100			

A V (2)

DATE	TIME	MIN.	AMP'S	Volts 1315	Volts 1570	Volts 1696	Temp 1315	Temp 1670	Temp 1696	
	A.M.									
11/9	3 25	320	60	1067	1075	1097				
	55	350	"	1045	1055	1080				
		(335)		(1055)						
	45	340	"	982	1012	1075				
		(345)			(100)					
	55	350	"	635	745	1055				
		(350)		50						
	4 05	360	"	785	782	1025				
		(360)			(80)					
	15	370	"	—	785	960	1152	115		
	18	373	"			925				
	21	376				85				
	24	379				72				
	27	382				537				
	27½	382½				50			1122	
					x	o				

OK

11/9/10 All ± 1315 was cut open for inspection and was found to be intact except for break in grid at lower corner of one plate. No lime or injured tubes or pockets could be found.

Groups were soaked in distilled water about 40 hours, then dried over Sunday in drying oven. Next the [illegible]

-338.5
-343.5
-353.0
-366.0
-367.0
-382.5

DATE	TIME	MIN.	AMP'S

DATE	TIME	MIN.	AMP'S
1.21.11	P.M.		Received
			Five H4 Cells for Station Service
			as loaned by E. P. Ross Jr.
1.22.11	P.M.		Cells were tested for height of solution
			& distilled H_2O added as
			follows
			2046 200 C.C.
			2140 197 C.C.
			1792 115 C.C.
			2168 197 C.C.
			2078 195 C.C.
			They were then connected to Board
			& stood 36 hours without charging
			and then discharged fully

A IV

DATE	TIME	MIN.	AMP'S	V. 1792	2046	2078	2140	2168	T. 1792	2046	2078	2140	2168
	A.M.			Wednesday					12				
1.24.11	2.55	Open		104	133	130	130	133	78	76	77	77	78
	3.00	0	30	116	94	92	94	88		-.5			
				(60)									
	.02	2	"	77	80	81	82.5	81.5					
	.05	5	"	78.5	80	80.5	82	80.5					
	.10	10	"	80.5	81	82	81	81					
	.20	20	"	82	82	82	82	81.7					
	.30	30	"	82	82	82	82	82					
	.40	40	"	80	80	80.5	80.5	80.7					
	.50	50	"	79	79	79.5	79.5	79.7					
	1.00	60	"	78	78	78	78	78.2					
	.10	70	"	×	×	×	×	×					
	.20	80	"	72.2	72.5	72	72.7	72.2					
	.30	90	"	72	69	70	69	71					
	.40	100	"	70	66.2	67.2	66	68.5					
	.50	110	"	61	62	63	62	63.5					
	5.00	120	"	63.5	58.5	59	58.7	60					
	.10	130	"	63.5	57	55	57	56		80		80	
	.15	133	"		55	—	55	—				—	66.5
	.15	135	"	63		56		56					
	.20	140	"	(V)		55		56			91	—	170
	.22	143	"	62		—		—					78.5
	.27	147	"	—		—		55					

A II

DATE	TIME	MIN.	AMPS	102	104	106	108	110	112	T	T	T	T
	A.M.												
4/24/11.	660	160	30	111									
	47	167	"	50									
	A.M.			Change						.3			
	600	0	30	111	120	120	122	118		93	94	93.5	94-90
	900	3	"							97	96	96	96-95
	1200	6	"							98	95	94	96-94
P.M.	300	9	"							95.5	97	97.5	98-95.5
	600	12	"							98	100	100	100-99
	900	15	"	182	183	182	182	184		98	100	100.5	98.5-97
				Discharge									
	903	0	30	152	150	150	150	150					
	05	2	"	150	149	148	148	148					
	07	2	"	140	140	138.5	137	140					
	10	5	"	137	137	136	136.5	137					
	15	10	"	135	134.5	134.5	134.5	134.5					
	25	20	"	134	133.5	133.5	133	133.5					
	35	30	"	132.5	131.5	131.5	131	131.5					
	45	40	"	130	129.5	129.5	129	129.5					
	1005	60	"	126.5	126	126	126	126.5					
	25	80	"	125	124.5	124.5	124	125					
	45	100	"	123.5	123	123	123.5	123.5					
	1105	120	"	121.5	121.5	121.5	121	122					

A II

DATE	TIME	MIN.	AMPS	102	104	106	108	110	112	T	T	T	T
4/24/11	7PM											.3	.5
	1125	140	30	120.5	120	120	120	119.5					
	45	160	"	118	118.5	118	118.5	119					
4/25/11	A.M. 1205	180	"	117.5	117	117.5	116.5	117.5					
	25	200	"	116.5	116	116	116.5	116.5					
	45	220	"	114	113.5	114	113.5	111					
	1:06	240	"	113	112.5	112.5	111.5	113					
	26	260	"	111.5	110.5	111	109.5	111					
	36	270	"	—	—	—	107	—					
	46	280	"	105.5	105.5	107.5	106	107.5					
	56	290	"	105	106	106	106	106					
	2:06	300	"	105.5	104	104	104	104				-152	
	16	310	"	104.5	103.5	103.5	99	102				-153.5	
	26	320	"	102	100	99.5	96	100				-160	-160
	36	330	"	100	98.5	96	93	95.5				-165	
	46	340	"	97.5	93	92	86	92					
	56	350	"	93	87	86	77	83.5					
	3:06	360	"	90	83.5	80.5	64.5	80					
	16	370	"	77	74.5	68	20	64.5				-182	101
	20	375	"					50				-187.5	99
	22½	377.5	"			52							
	26	380	"	50	44						99	-190	101
	36	385	"		50								101

A II

DATE	TIME	MIN.	AMP'S	V 1792	V 2084	V 2078	V 2160	V 115	T Y	T G	T B	T O
	AM		Cleaning	of	14							
4/25/84	020	0	30	158	155	152	152	125	90	92	90	90
	5-0	5	"						88	90	90	90-88
	1120	6	"						90	91	91.5	92-90
	PM											
	220	8	"						90	91.5	92	92-90
	5-0	12	"						98	99.5	98	99-97
	820	15	"	152	153	151	152	125	100	101.5	101	102-100
	PM		Cleaning	of								
	820	30	"	157	157	157	157	127				
	25	0	30	148	146	146	146	146				
	37	2	"	149	149	149	149	149				
	50	5	"	137	137	137	137	137				
	35	10	"	136	135	135	136	135				
	47	22	"	133	133	132	132	133				
	55	30	"	132	132	131	131	132				
	905	40	"	130	130	130	130	130				
	25	60	"	126	126	126	126	126				
	45	80	"	124	124	124	124	124				
	1005	100	"	122	122	122	122	123				
	25	120	"	120	121	120	120	121				
	45	140	"	119	120	120	119	120				
	1105	160	"	118	118	119	119	119				

A IV

DATE	TIME	MIN.	AMP'S	VOLTS 1792	2084	2078	2160	2168	TEMPS 1792	2084	2078	2160	2168
	PM		30										
4-25-11	1125	150	"	λ	λ	λ	λ						
	45	200	"	116	117.5	116.5	117	117					
	AM												
4-26-11	12-05	220	"	116.5	116	116	116	116	97.5	98	98	96.5-98.5	
	25	240	"	114	114.5	114	114.5	114					
	45	260	"	112	112	112	112.5	112					
	1106	280	"	110	111	110	110.5	110					
	26	300	"	107	107.5	107	108.5	108					
	36	310	"	106.5	106.5	106.5	106	106					
	46	320	"	106.5	106	106.5	106	106					
	56	330	"	102	102	102	102 (100)	102.5					166.5
	2:06	340	"	101	100	100	99.5	100					170
	16	350	"	98	98.5	98	98.5	98.5					170
	26	360	"	94.5	91	91	90.5	90					
	36	370	"	88	88.5	88.5	89	90					
	36½	370½	"	—	—	—	60	—					97-185.2
	46	380	"	56	56.5	57	—	57					
	46	381	"	—	—	—	—	60					190.5 99
	46½	381½	"	—	—	60	—	—				100	190.7
	56	387	"	60	—	—	—	—	98				193.5
	56½	387½	"	—	60	—	—	—		99.5			193.7

A II

DATE	TIME	MIN.	AMP'S	VOLTS 1992	2046	2098	2140	2185	TEMPS 2	6	3	0	9
3/26/11	A.M.												
				Charge #					15				
	1100	0	30	1214	1525	1557	1557	1566	90	96	RK	91/90	
	700	3	"						87	88	88	88-87	
	1000	6	"						87	88	89	89-87	
P.M.	100	9	"						92	93	93	94-93	
	400	12	"						93	94	94.5	94.5-93	
	700	15	"	164	1845	1837	1845	1855	94	95.5	95	95	95.5
				Discharge									
	7.03	0	30	148	147	156	157	1545					
	05	0	"	148	147	146	144	146					
	07	2	"	140	140	140	140	140					
	10	5	"	137	1365	136	136	136					
	15	10	"	132	135	1345	135	135					
	25	20	"	133	133	1325	133	133					
	35	30	"	1315	1312	1312	131	131					
	45	40	"	130	1297	129	129	129					
	8.05	60	"	127	127	126	127	127					
	25	80	"	125	125	127	125	125					
	45	100	"	—									
	9.05	120	"	121	122	121	122	122					
	25	140	"	120	120	120	120	120					
	45	160	"	118	117	119	119	117					
	10.05	180	"	118	118	118	118	117	96	95	96	96.5	95

A II

DATE	TIME	MIN.	AMP'S	VOLTS 1992	2046	2098	2140	2185	TEMPS 1	2	3	4	5
4/26/11	PM												
	1025	200	30	116	117	116	117	118					
	45	220	"	116	116	116	116	117					
	1105	240	"	114	115	114	115	115					
	25	260	"	113	114	112	113	114					
	45	280	"	111	111	110	110	111					
4/27/11 AM	1205	300	"	108	109	108	108	109					
	15	310	"	107	107	106	106	108					
	25	320	"	106	106	105	104	106					
	35	330	"	104	103	103	102	104					
	45	340	"	102	101	100	100	102					
	55	350	"	99	98	97	96	98					
	105	360	"	95	93	92	89	93					
	15	370	"	89	87	84	85	86					
	20	375	"				50		91				
	25	380	"	76	76	68		66					
	28	383	"			50			101				
	30	385	"					50	100				
	34	389	"	50					99				
	35	390	"		61								
	38	393	"		50				100				

Hossa 2 Stere
1.42 1/2 Hm. April 11

1	2	3	4	5	
					172
					170
					174.5
					172
					174
					187.5
					192.7
					193.5
					194.5
					196.5

H IV.

DATE	TIME	MIN.	AMP'S	VOLTS 1998	2040	2078	2120	2168	Temps 1	2	3	4	5
4/27/11				Change #16									
	7 AM												
	440	0	30	150	154	155	157	156	85	87	87	87-88	
	42	2	"	162	161	161	165	162					
	45	5	"	163	162.5	162	164	163					
	50	10	"	165	165	165	164	166	167				
	500	20	"	166	167	165	167	167					
	10	30	"	168	169.5	168	169	168					
	30	40	"	170	169	170	170	170					
	40	60	"	169	169	170	169.5	169.5					
	600	80	"	168.5	168.5	169.5	168	168					
	20	100	"	168	168	168	168	168					
	52	120	"	168	168	168	168	168					
	700	140	"	168	168	168	168	168					
	20	160	"	168.5	168	168	168	168.5					
	40	180	"	169	168.5	169	168.5	169	88	88	88	87-88	
	800	200	"	168	168	168	168	168					
	20	220	"	168	168	168	168	168					
	40	240	"	169	169	169	169	169					
	900	260	"	170	170	170	170	170					
	20	280	"	171	170.5	170.5	171	171					
	40	300	"	172	172	172	172	172					
	1000	320	"	172.5	172.5	172	173	173					
	20	340	"	173	173	172.5	172.5	173					

H IV.

DATE	TIME	MIN.	AMP'S	VOLTS 1998	2040	2078	2120	2168	Temps 1	2	3	4	5
	A.M.												
	1640	960	30	174	175	175	176	175.5					
4/27/11	1700	980	"	177	178	178	180	179					
	20	1000	"	180	180	180	182	182					
	40	1020	"	181.5	181.5	181	183	182.5					-7 hrs.
	A.M.			Discharge									
	1143	ap	30	156	156	158	156	156					
	45	0	"	146	144	144	144	144					
	47	2	"	138	136.5	136.5	137	137					
	50	5	"	136	135.5	136.5	136	135.5					
	55	10	"	134	133	133.5	134	133.5					
	P.M. 1205	20	"	131.5	131.5	131.5	131.5	131					
	15	30	"	129	129	129.5	129	129.5					
	25	40	"	127.5	127	127.5	127.5	127					
	45	60	"	125	125.5	125.5	125.5	125.5					
	105	80	"	123.5	123.5	123.5	123.5	123.5					
	25	100	"	120.5	121	121	121	121.5					
	40	120	"	119.5	120	120.5	120	120.5					
	205	140	"	119	119.5	119.5	119.5	120					
	25	160	"	118.5	118.5	119	119	119.5					
	45	180	"	116.5	117	117	117.5	117.5	90	90	91.5	91.5	92
	305	200	"	115	115.5	115.5	115.5	116					
	25	220	"	114	114	114	114.5	114					
	45	240	"	111	111	111.5	111.5	112					

A IV

DATE	TIME	MIN.	AMP'S	Volts 1792	2040	2088	2140	2168	Temp 176	178	42 - 65
	P.M.										
4-27-11	405	260	30	109	109	109	109	109			
	15	270	"	108	108	108	108	107			
	25	280	"	106.5	106	106	106	107			
	35	290	"	103.7	103.5	104	103.7	105.5	109		
	45	300	"	100	99	100.2	99	101.7	97	96	96.5
	55	305	"			100		100	98.5		98.5

P.M. Discharge #17

DATE	TIME	MIN.	AMP'S								
	600	0	30	150	150	152	150	153	93	93	93.5
	02	2	"	154	154	154	155	155			
	05	5	"	158	158	158	158	158			
	10	10	"	159	159	159	160	160			
	20	20	"	163.5	164	161	165	165			
	30	30	"	167	167.5	166	168	168			
	40	40	"	168	168	167.5	168	168			
	700	60	"	167	167	167	166.5	167			
	20	80	"	166	166	166	166	166			
	40	100	"	166	166	166	166	166			
	800	120	"	166	166	166	166	166			
	20	140	"	166	166	166	166	166			
	40	160	"	166	166	166	166	166			
	900	180	"	167.5	167.5	167	167.5	167			

A IV

DATE	TIME	MIN.	AMP'S	V 1792	Volts 2040	2088	2140	2168	Temp 1	2	3	4 - 5
	P.M.											
4-27-11	900	200	30	167	167	167	167.2	167.2				
	40	220	"	167.5	167.2	167	167.5	167.5				
	1000	240	"	170	169.7	169.2	170	170				
	20	260	"	170.2	170.2	170	170.7	170.5				
	40	280	"	172	172.7	172.2	172.5	172.5				
	1100	300	"	176	176	175.5	175.7	175.7				
	20	320	"	178	178	177.5	178	178				
	40	340	"	180	180.5	180	180.5	180.7				
	1200 A.M.	360	"	181.7	182.5	181.7	183	182.5				
4-28-11	20	380	"	182.5	183	182.5	183.5	183.5				
	40	400	"	183.5	184	183.7	184.2	184.2				
	100	420	"	184.5	184.5	184.5	184.5	184.5	88	90	90	90-88

—Phen

P.M. Discharge

DATE	TIME	MIN.	AMP'S									
4-28-11	103	000	30	167.5	167	166.5	167	166.5				
	05	2	"	146	146	145.5	146	146.7				
	07	5	"	138	137.5	137	138	137				
	10	5	"	136	135	135	137	135.5				
	15	10	"	134	134	133.7	134	133.7				
	25	20	"	132	131.7	131.5	131.7	131.7				
	35	30	"	130	129.7	129.7	130	129.7				
	45	40	"	128	128	128	128	128				
	255	60	"	125	125.5	125.2	125.7	125.7				

H. IV.

DATE	TIME	MIN.	AMP'S	VOLTS 179.2	204.6	202.8	214.0	216.8	TEMPS 179.2	204.6	202.8	214.0	216.8
	A.M.												
4-28-11	2.25	80	30	123.7	124.4	123.7	124.4	124.4					
	.45	100	"	122	122	122	122	122					
	3.05	120	"	120.5	121	121	121	121					
	.25	140	"	120	120	120	120	120					
	.45	160	"	119	119.5	119.5	119.5	119.7					
Temps	4.05	180	"	118	118	118	118	118	90	91	92	91.5	91.5
	.25	200	"	116.2	116.7	116	116.2	116.7					
	45	220	"	115	115.7	115	115	115.5					
	5.05	240	"	113	113.7	113	113.7	114					
	25	260	"	111.5	111	111.5	111.5	112					
	45	280	"	109	109.5	109.7	109.7	108.5					
	55.5	290	"	105.7	104.5	104.5	104.7	105.5					
	600	300	"	104	104	103.7	103.5	104					
	12	307	"	100	100	100	100		90.5	93	94	92	
	10	310	"					100		155			92
	A.M.					Change		18					
4-30-11	440	0	30	148	148.5	149	149.5	15	92	93	92	91	90
	42	2	"	154	154	154	154.5	154					
	45	5	"	155	155	156	156	156					
	50	10	"	158	158.5	158	159.5	159					
	700	20	"	162	162.5	161	163	163					
	10	30	"	165.7	166	164	166	166					
	20	40	"	167	167	166	167.7	167.7					

H IV

DATE	TIME	MIN.	AMPS	VOLTS 179.2	204.6	202.8	214.0	216.8	TEMPS 2	6	4	0	8
	A.M.												
4-30-11	740	60	30	166	166	166	166	166					
	800	80	"	165	165	165	165	165					
	20	100	"	166	165.7	166	166	166					
	40	120	"	166	166	165.5	166	166					
	900	140	"	165	166	166.5	166.2	167					
	20	160	"	167	167.7	167	167	167					
	40	180	"	167.7	167	167	167	167.5					
	1000	200	"	166.2	166	166.2	166	166	87	88	88	89	89
	20	220	"	169	169.2	169.7	169.7	169.7					
	40	240	"	171	170.5	170.5	171	170.5					
	1100	260	"	171	171	170.5	170.5	170.5					
	20	280	"	173	173	171.7	172	172					
	40	300	"	175	176	174	174.7	175					
	1200	320	"	178	179	178	178	178					
P.M.	20	340	"	178.5	179	178	179	179					
	40	360	"	182	182	181.5	182	182					
	100	380	"	183	183.2	183	183.5	183					
	20	400	"	183.5	183.7	183.5	183.7	183.7					
	40	420	"	183.5	183.5	183.5	184	184	89	90	91	91-5	92
	P.M.					Discharge						Tha	
4-28-11	143	open		156	156	155.5	156	156					
	45	0	30	146.5	145	144.5	145.5	144.5					
	47	2	"	137	136.5	135.5	138.5	136.5					

H IV

| DATE | TIME | MIN. | AMPS | V O L T S | | |

H.IV

DATE	TIME	MIN.	AMP'S	VOLTS					TEMPS				
				1994	2046	2098	2140	2168	1994	2046	2098	2140	2168
4/28/11	H.M.												
	2.00	240	30	185	183	182	183	184					
	.20	360	"	184	184	184	184	184					
	.40	900	"	184	184	184	184	184					
	3.00	420	"	184	184	184	184	184	90	92	95	91	90
													74
	A.M.			Discharge									
	3.03	900	30	156	156	156	156	156					
	.05	0	"	146	145	144	144	144					
	.07	2	"	138	137	137	137	137					
	.10	5	"	136	135	135	135	135					
	.15	10	"	134	134	133	134	134					
	.20	20	"	132	132	132	132	132					
	.30	30	"	130	130	130	130	130					
	.40	40	"	128	128	128	128	128					
	4.05	60	"	126	126	126	126	126					
	.20	80	"	124	124	124	124	124					
	.40	100	"	122	123	122	123	123					
	5.05	120	"	121	121	121	121	122					
	.20	140	"	120	121	121	121	121					
	.40	160	"	119	119	119	119	119					
	6.05	180	"	118	118	118	118	118	92	94	94	95	97
	.20	200	"	117	117	117	117	117					
	.40	220	"	116	116	116	116	116					

H.IV

DATE	TIME	MIN.	AMP'S	VOLTS					TEMPS				
				1992	2040	2088	2140	2168	2	4	6	8	10	12
	A.M.													
4/29/11	7.05	240	30	115.7	114	115.2	115.7	114						
	.25	360	"	111	111.2	111	111	112						
	.45	480	"	108	108	108	107.7	108.5						
	.55	540	"	106	106.2	106	106	107						
	8.05	600	"	105	104	104	103	105						
		3068					100							
	10	610		102	100	100	98	104.5						
		3168						100						
	.25	720		97	95	94	89.5	96						
	.35	780		89	88	88	66	85						
	40	810					50							
	45	840		72.2	77	75.5		61						
	47	852				50								
	49	844						50						
	52	897		50										
	55	950			68									
	59	954			50									
	A.M.			Charge				20						
4/29/11	10.45	0	30	156	156	157	158	158	94	97	97	95	95	
	11.45													
	1.45	3	"						95.5	94.5	95	94.5	93.5	
	4.45	6	"						94	94	95	96	94	
	5.45	7	"						94	95	96	97	96	
	Charge interrupted Stored 15 hours													
	8.45	7	30	166	162	165	169	162	97.5	97.5	97.5	98	97.5	
	11.45	10	"						97.5	98	98.5	98	97.5	
	2.45	18	"						96.5	97	98	98	97	
Stored	4.45	15		132	135.5	133	134	132	96	98	97.5	98	97.5	

FI ①

DATE	TIME	MIN.	AMP'S
			1796 2046 2078 2140
H 30 11			Cells were then disconnected
5.1.11 #17			from Equal + connected up in
			line. The battery was then returned
			to Room.

18867 A

18867 A is a Special cell consisting of one positive + two negative plates from #4 cell # 18867 mounted with glass insulators in an #4 Can

It was filled with 1700 cc 25% KOH + 15 g LiOH per liter + after soaking for about 30 hours the was emptied out and cell refilled with 1700 cc 21% KOH + 45 g LiOH (total)

It was then run as follows

FI ②

DATE	TIME	MIN.	AMP'S	
				18867 A
	PM			Charge #1
5-4-11	10.10	0	7.5	1.83
	11.10	1	"	1.662
5-5-11	12.10 a.m.	2	"	1.65
	1.10	3	"	1.67 1.65
	2.10	4	"	1.677
	3.10	5	"	1.682
	4.10	6¼	"	1.697 1.77
	5.10	7½	"	1.707
	6.10	8	"	1.717
	7.10	9	"	1.72
	8.10	10	"	—
	9.10	11	"	1.732
	10.10	12	"	1.74
	11.10	13	"	1.742 1.79
	12.10 P.M.	14	"	1.745
	1.10	15	"	1.745 — 15 Jan.
	PM			Discharge
	1.13	0 min	1.7	1.795
	1.15	0	7.5	1.745
	1.17	2	"	1.735
	1.20	5	"	1.734

F # 2

DATE	TIME	MIN.	AMP'S	V	T
	P.M.			1886 7A	
	1.25	10	7.5	131	
5-5-11	35	20	"	129	
	45	30	"	126	
	55	40	"	1245	
	2.15	60	"	1217	
	35	80	"	1197	
	55	100	"	1181	
	3.15	120	"	117	
	35	140	"	1162	
	55	160	"	1152	P. Lewis
	4.15	180	"	115	
	35	200	"	1134	
	55	220	"	113	
	5.15	240	"	1132	
	35	260	"	111	
	55	280	"	110	
	6.05	290	"	109.5	
	15	300		108	
	25	310		108	
	35	320		107	
	45	330		107	
	55	340		106	
	7.05	360		105.5	

H I 2

DATE	TIME	MIN.	AMP'S	V	J
	P.M.			1886 7A	
5/5/11	7.15	300	7.5	115	
	35	320	"	104	
	35	350	"	108	
	45	390	"	108.5	current of 6 min.
	55	394	"	102.5	
	805	404	"	100.5	
	12½	411.5		100	
	15	414	"	100	— 5.1.7
	25	424	"	98.7	
	35	434	"	98	
	45	444	"	96	
	55	454	"	94	
	905	464	"	90.5	
	10	474	"	91	
	20	480	"	90	
	25	484	"	92.78	— 6.0

Stood idle 58 hours over Saturday and Sunday

	A.M.				Charge #2
5-8-11	7.30	0	7.5	162	74
	8.30	1	"	166	
	9.30	2	"	172	
	10.30	3	"	173	79

TI ②

DATE	TIME	MIN.	AMP'S	Volts	Remarks
	A.M.			18867	A
5-8-11	11.30	4	7.5	1735	
	P.M.				
	12.30	5	"	174	
	1.30	6	"	1747	91
	2.30	7	"	1745	
	3.30	8	"	1765	
	4.30	9	"	1762	80
	5.30	10	"	1765	
	6.30	11	"	178	
	7.30	12	"	177	81
	8.30	13	"	177	
	9.30	14	"	1765	
	10.30	15	"	176	82
	TM				
	12.30	0	7.5	167	
	35	0	7.5	1465	
	37	8	"	128	
	40	9	"	134	
	45	10	"	133	
	55	94	"	129	
	1.00	84	"	127	
	15	10	"	126	
	25	60	"	123	
	35	84	"	120	
	12.15	100	"	118	

— 15th

Washington

TI ②

DATE	TIME	MIN.	AMP'S	P.J.	
	A.M.			18867	A
5/9/11	1.35	120	2.5	118	
	55	140	"	115	
	2.15	160	"	115	
	35	180	"	114	?
	55	200	"	114	
	3.15	220	"	113	
	35	240	"	112	
	55	260	"	112	
	4.15	280	"	111	
	35	290	"	111	
	55	300	"	111	
	5.15	310	"	4	
	35	320	"	110	?
	4.05	330	"	110	
	15	341	"	110	?
	25	350	"	110	
	35	360	"	109	?
	45	370	"	109	
	55	380	"	108	?
	6.10	390	"	108	
	15	400	"	108	
	35	420	"	106	
	55	440	"	106	
	7.15	460	"	104	

FI Q

DATE	TIME	MIN.	AMP'S	V	T
	AM			188.6	78
5/9/11	6.35	480	75	101.5	
	45	490	"	100	
	55	500	"	98	
	7.05	510	"	96	
	15	520	"	92	
	25	530	"	86	
	36	539	"	50	85
	AM		76	Discharge #3	
	8.30	0	"	140	80
	9.30	1	"	165.5	
	10.30	2	"	170.5	
	11.30	3	"	170.7	80
	PM				
	12.30	4	"	172	
	1.30	5	"	173	
	2.30	6	"	175	81.5
	3.30	7	"	177	
	4.30	8	"	176.5	
	5.30	9	"	176.5	81
	6.30	10	"	177.7	
	7.30	11	"	178	
	8.30	12	"	178	82
	9.30	13	"	178.5	

61.2

47.3

? OK

FI Q

DATE	TIME	MIN.	AMP'S	V	T
	PM		75	188.6	78
5-9-11	11.30	14	"	180	
	11.30	15	"	178.7	79.5
	PM				
5-9-11	11.30	0	Discharge	135	
	35	10	75	146	
	37	12	"	139.2	
	40	15	"	—	
	45	20	"	131.5	
	50	20	"	129	
	AM				
5-10-11	12.05	30	"	126.7	
	15	40	"	126	
	35	60	"	124	
	55	80	"	120.7	
	1.15	100	"	119.5	
	35	120	"	118	
	55	140	"	117	
	2.15	160	"	116.2	79
	35	180	"	116.2	
	55	200	"	114.7	
	3.15	220	"	114	
	35	240	"	113.7	
	55	260	"	113.2	
	4.15	280		113	

15 hrs

Discharge

F I ②

DATE	TIME	MIN.	AMP'S	V	T
	#17			111.7A	
5-10.11	4:38	30	7.0	112	
	45	15	"	112	
	55	20	"	111.7	
	600	30	"	111	
	15	30	"	111	82
	25	30	"	110.5	
	35	30	"	110.5	
	45	30	"	110	
	55	30	"	110	
	600	30	"	110	
	15	30	"	109.7	
	25	30	"	109	
	35	30	"	108.7	
	45	30	"	108	
	55	30	"	107.7	
	7.05	30	"	107	
	15	30	"	106.7	
	25	30	"	106.7	
	35	30	"	106.2	
	45	30	"	106.2	
	55	30	"	106.7	
	805	30	"	107	
	15	30	"	99.7	83

? OK

F I ②

DATE	TIME	MIN.	AMP'S	V	T
	#17		7.5	184.67-4	
5-10.11	8:25	30	"	192	
	32	637	"	50	
					? OK -67.0
#4				Charge	4
5-10-11	9.30	0	7.5	155	
	10.30	1	"	167.2	86
	11.30	2	"	169	
PM	12.30	3	"	169	? Temp
	1.30	4	"	170.2	
	2.30	5	"	171	
	3.30	6	"	173.5	
	4.30	7	"	174	90
	5.30	8	"	174.5	
	6.30	9	"	176	? Temp
	7.30	10	"	176	
	8.30	11	"	177	
	9.30	12	"	178	87
	10.30	13	"	179.2	
	11.30	14	"	180.5	
AM	12.30	15	"	181.7	84
5-11-11				over	

F. I 2A

DATE	TIME	MIN.	AMP'S	V	T
	A.M.			1886	T.H
				Discharge	
5-11-11	1233	Aprox	15.8		
	35	0	7.5	1467	
	37	2	"	1398	
	40	5	"	130	
	45	10	"	132.2	
	53	20	"	130	
	1.03	30	"	128	
	1.15	40	"	127	
	35	60	"	123.8	
	55	80	"	121	
	2.15	100	"	120	
	35	120	"	118.2	
	55	140	"	X	
	3.15	160	"	115	
	35	180	"	113	F.O
	55	200	"	112	
	4.15	220	"	111	
	35	240	"	110.2	
	55	260	"	110	
	5.15	280	"	112.2	
	35	300	"	112	
	55	320	"	112	

F. I 2

DATE	TIME	MIN.	AMP'S	V	T
	A.M.			1886	T.H
5-11-11	555	320	.5	1117	
	605	330	"	1107	
	15	340	"	1101	
	25	350	"	1101	
	35	362	"	1102.2	
	45	374	"	110	
	55	380	"	110	
	6.12	397	"	110	
	15	400	"	108.7	
	25	410	"	108.5	
	35	420	"	108.2	
	45	433	"	108.0	
	55	440	"	107.7	
	6.06	451	"	107.2	
	16	464	"	106.5	
	25	470	"	106	
	35	480	"	105.7	
	45	490	"	104	
	55	500	"	102	
	7.02	517	"	100	— 63.4
	9.05	530	"	99	
	15	540	"	98	
	25	555	"	50	78.6 — 66.0

F I (9)

Charge #5

DATE	TIME	MIN.	AMP'S	V	T
A.M.			7.5	188	67 A
5-11-11	10.30	0	"	156	80.5
	11.30	1	"	167.7	
PM	12.30	2	"	167.8	
	1.30	3	"	167	81.5
	2.30	4	"	166.2	
	3.30	5	"	170.5	
	4.30	6	"	171.7	92
	5.30	7	"	173	
	6.30	8	"	173	
	7.30	9	"	173	94
	8.30	10	"	175	
	9.30	11	"	177.9	
	10.30	12	"	180	85
	11.30	13	"	180.5	
	12.30	14	"	182	
	2.30	16	"	182	
A.M.					
	2.33	open		159	
	35	0	7.5	147	
	37	2	"	148	
	40	5	"	144	
	45	10	"	132.5	

1 hr. overcharge.
and cells commence
[illegible] at PM. [illegible]
was [illegible]
— 16 hrs.

Discharge

F I (2)

DATE	TIME	MIN.	AMP'S	V	T
	A.M.			188	67 A
5/12/11	2.55	20	7.5	130	
	3.05	30	"	128	
	15	40	"	126	
	25	50	"	124	
	35	60	"	122	
	4.05	70	"	120	
	35	120	"	118.7	
	55	140	"	118	
	5.15	160	"	117	
	35	180	"	116	84
	55	200	"	116	
	6.15	220	"	115	
	35	240	"	114.5	
	55	260	"	114	
	7.15	280	"	113	
	35	300	"	112.5	
	55	320	"	112	
	8.05	330	"	112	
	15	340	"	111.8	
	25	350	"	111.7	
	35	360	"	111.5	
	45	370	"	111.5	
	55	380	"	111	

F I ②

DATE	TIME	MIN.	AMP'S	V	T
4M.			7.5	188674	
5-12-11	9.05	390	"	111	
	25	410	"	1085	
	45	430	"	1095	
	55	440	"	109	
	10.05	450	"	1095	
	15	460	"	108	
	25	470	"	107	
	35	480	"	1054	
	45	490	"	1042	
	55	500	"	103	
		5005		5005	
	11.05	510	"	98	
	15	520	"	97	
	19.7	523.7	"	30.97	
1.77			Charge	+6	
	12.50	1	7.5	155	87
	52	2	"	166	
	55	5	"	167	
	100	10	"	—	
	10	20	"	165	
	20	30	"	162	
	30	40	"	164	
	50	60	"	167	

-63.2

-65.4

F I ②

DATE	TIME	MIN.	AMP'S	V.	J.
5/12/11	PM			188674	
	2.10	50	7.5	167	
	30	100	"	166	
	50	120	"	167	
	3.10	140	"	167	
	30	160	"	166	
	50	180	"	167	
	4.10	200	"	167	
	30	220	"	168	
	50	240	"	168	
	5.10	260	"	—	
	30	280	"	170	
	50	300	"	170.5	
	6.10	320	"	171	
	30	340	"	171.5	
	50	360	"	172	
	7.10	380	"	172.5	
	30	400	"	172	
	50	420	"	171.5	
5/13/11	Am			No charge.	
	7.52	0	7.5	171.5	
	7.55	5	"	171.5	
	8.7	9	"	138.5	

-7 hrs.

F 1 (2)

DATE	TIME	MIN.	AMP'S	V.	T.
5/12/11	P.M.			18867	H
	8:5	5	7.0	13115	
	5	10	"	132	
	15	20	"	130	
	25	30	"	127	
	35	40	"	125.5	
	45	50	"	123.7	
	9:15	60	"	122	
	35	100	"	120.5	
	55	120	"	119.5	
	10:15	140	"	119	
	35	160	"	118	
	55	180	"	117	
	11:15	200	"	116	
	35	220	"	115	
	55	240	"	114	
	12:25	254	"	113	
	15	264	"	112	
	25	274	"	111	
	35	284	"	112	
	45	294	"	112.5	
	55	304	"	112	
	1:05	314	"	111	
	15	324	"	111	
	35				

F I (2)

DATE	TIME	MIN.	AMP'S	V	T
	AM			18867A	
5/13/11	125	320	7.0		
	35	340	"		
	45	353	"	109	
	55	360	"	107	65.6
	2.05	370	"	105.5	46
		362		105.87	47.2

The Cell will need stand till # 18867B, which is similar in all respects except it has rubber insulation instead of glass tube. The same number of hours which the 2 will run in series.

	AM		18867B
5.12.11	1.00		1700 C.C. 25% KOH + 15% LiOH per liter put into cell, 7 plates
			allowed to soak 3.3 hours.
5.14.11	1.00		This was then emptied & removed with 900 C.C. 21% KOH + 50% LiOH per liter and 800 C.C. 21% KOH straight. Total 1,700 C.C.
			Cell then stood 2 hours and was run as follows.

Notebooks by Experimenters Other Than Edison
Group 3: Cement

The eight notebooks in this group cover the period May 1899-February 1903. They include entries by Francis R. Upton, Robert W. Rafn, and Cloyd M. Chapman; two books also contain notations by Edison. Five of these notebooks were used primarily to record a continuous series of 640 experiments pertaining to the milling of cement rock and to the desired composition of the mixed concrete, though at least one book is missing from the set. A sixth book contains a summary of some of the results obtained. Two additional books are by Chapman and contain notes on orders placed for the construction of kilns and other equipment, as well as notes on the development of bags for the storage and shipment of cement.

Entries from four notebooks have been selected. N-99-05-23 contains Edison marginalia about the milling and mixing experiments, as well as Upton's notes on the "Scheme of Tests." N-99-06-22.1 contains four pages of calculations and preliminary sketches by Edison of a cement operation, in addition to several pages of notes by Upton that summarize some of the milling and mixing tests in the preceding book. N-99-10-00 is the sixth, summary book of results, and N-02-05-24.1 contains notes by Chapman regarding orders for kilns and other equipment, possibly intended for Edison's cement plant in Stewartsville, New Jersey. The two partially selected books are followed by a bracketed number noting the approximate percent of pages selected. The entries not selected include numerous ore assays, bag experiments, lists of parts for a gas engine, and additional tests of various compositions of cement. A notebook containing only cement rock assays can be found in Group 5: Chemical Laboratory.

N-Number	Inscription on Front Cover or Flyleaf
Selected Books	
99-05-23	"Cement Notes May 23, 1899 F. R. Upton"
99-06-22.1	"Cement Notes June 22, 1899 F. R. Upton" [less than 5%]
99-10-00	"Results of Cement-experiments. (903)"
02-05-24.1	"Bricker Machine C.M.C. 5/24/02" [less than 5%]

Cement Mixing Books: Not Selected

99-09-02	"Cement Notes Sept 2, 1899"
99-09-19	"Cement Mixing Notes Sept 19, 1899"
99-10-11	"11 Oct 1899"

Bag Test Book: Not Selected

02-04-25	"Bag Test"

Notebook, N-99-05-23

N-99-05-23

2500
80
20000

80
30
2400

24000

4000 bbls

80 Griff-Hills

130
80
9800

75 70- 6-

20 | 4000 | 200 Hours
80

5 | 200
40-

1

Cement Notes
May 23, 1899
F. R. Upton

28-

1995
218

218
50
1290-0

46.8
250
211.8-

500
109
391.-

Lehigh chutes run through Corrugated Rolls 30 lbs air pressure Sample taken near middle of run 20 Grammes taken

On	100	3.74	18.7	
"	200	6.72	33.6	52.3
Thro	"	9.45	47.25	
		19.91		

Same as above except 45 lbs air

On	100	3.35	16.8	
"	200	6.00	30.	46.8
Thro	200	10.60	53%	
		19.95		

235
144
940
940
235
90) 33.840 (3.76

say 25'X25'
25
125
50
625
3.76
3750
4375
1875
2350.00
2.35 kilo
22
470
470
5.176 lbs

18
55
90
90
99.

25—

46—
50—

Box 15"X6" = 90 sq. inches
left 30 minutes on floor
collected 2.35 grammes of flour

$\frac{144}{90} \times 2.35 = 3.76$ grammes per sq. foot

This amounts to 5 1/5 lbs. on a space 25'X25'

Box 18"X5 1/2" as above
1.8 grammes on 99 sq. inches

225) 534 (23.7
450
840
675
1650

85
64
340
510
5440

16.

1662) 277 (16
1662
11680
2

4) 1300
320

4 485
1940

17

465
75
2425
3395
1445
1808.75

1800
26
10800
3600
46800

22.5 Grammes Lehigh Thro 100#
and on 200 pressed 100 thro =
11.400 lbs per square inch
on 200 17.13
#. Thro " 5.34 23.7 %
22.47

Material going thro 200 seems quite coarse

The 17.13 Grammes pressed again
on 200 13.85
Thro " 2.77
16.62

2232) 3570 (16
2232
13380
13392

2219) 5670 (2.5.5
4438
12320
11095
1225.0

2219) 4520 (20.4
4438
8200

2173) 6706 (30.9
6519
1810

50
400
2000
383) 19152 (52.2
8556
7660
896

14-
11
23
77
34

27
11
27
27
29

11
23
33
22
23

25
11
25
25
275

22.5 Grammes of Lehigh Through 9/1000 and on 100 wire mesh pressed 11.400 lbs per square inch = 100 atmos on 3/4 inch cylinder

1st	on 100	11.95	
	" 200	6.80	
	Thro "	3.57	16 %
		22.32	
2nd	on 100	10.22	
	" 200	7.35	
	Thro "	4.52	20.4%
		22.09	
3rd	on 100	9.55	
	" 200	6.55	
	Thro "	5.67	25.5 %
		21.87	
4th	on 100	8.08	
	" 200	6.95	
	Thro "	6.70	30.9 %
		21.73	

11400
4
4560

380
5
1900

65
5
325

10 Grammes of Lehigh clinker
Thro 9/1000 abt on 100 mesh
screen compressed 40 atmospheres
= 4560 lbs. per sq. inch.

on 100 6.88
" 200 2.33
Thro " 0.65
9.86

Removed ~~0.12~~ 0.12 Gramme "on 200"
and 0.65 "Thro 200" added

.012
.0.65 0.91 "on 100"
0.14
.91 Then crushed new mixture
4560 lbs

on 100 6.50
" 200 2.96
Thro " 0.48
9.94

Removed .012 Gram "on 200" & 0.48 Thro
added 0.56 "on 100".

May 25 1897

Lehigh ~~Cement~~ clinker from over screens. This had been run several times through the rolls and the fines removed in large jar by 9/1000 slot screens. Probably not a fair sample as fines would be not big as each

100 Grammes Taken

On	.027 mm hole		45.75
"	100 mesh		45.90
"	200 "		3.85
Thru	"	"	3.70
			99.20

Test made, see Page 53 other book, on Lehigh Clinker. The crushed clinker at rate of 67 tons an hour was screened. This show 42.6% on .027 mm hole

50 lb — Recess — 40000 lb

12" roll 3333 per week
15" 2666

65 lb 52400

65 lb 12" 4373
15" 3500

1149
34
4771
3561
2035

4755
65
23775
28506
1130875
2260750
75543.7
34
6174
4631
52485

64
4756
4486
5030
4756
12

3333

12 | 32000 (2666
16
40
40

15 | 40000
3000
1000

15

47 50
5500
23750
117750

12 | 52480 (4373
48
44
35
34
40
4

15 | 52480 (3500
45
74
73

Stiff Iron Roll 15" across 17

50 lb. air. 37 Bells an hour

7/1000 screen

Main shaft 186 r.p.m.

Sample #5 taken at end of running rolls 5 minutes.

On 100	1.00	10 %
" 200	3.75	37.5 %
Thru "	5.2	52 %
	9.95	

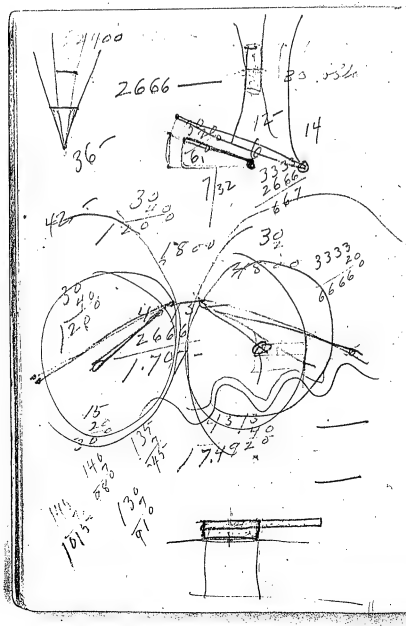
Sample #1 at beginning of run

On 100	2.10	21.0 %
" 200	3.75	37.5
Thru "	4.20	42
	10.05	

Sample #10 end of run 30 minutes

On 100	1.35	13.5 %
" 200	3.75	37.5
Thru "	4.70	47.0
	9.80	

In sample #10 there were quite a number of coarse pieces.

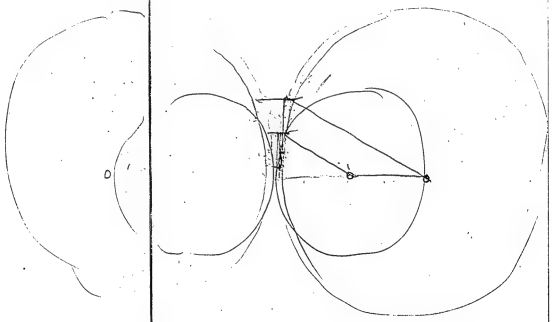


50 lbs pressure gives on

12" Roll	3333	lbs per inch face
15 "	2666	" " "

65 lbs pressure gives on

12"	4373	lbs per inch face
15	3500	"


D

65 lbs air at rolls

Rolls shattered and broke safety pins after running a few minutes

* 1 Sample taken

10 Samples taken

On 100	.67	67%
" 200	3.25	32.5
Thru "	5.95	59.5
	9.87	

#10 Hoxter

20 Grainmes taken

On	100	2.32	11.6 %	30.7
"	200	3.82	19.1	
Thru	"	13.75	68.75	
		19.89		

#11 Eagle

20 Grainmes taken

On	100	1.70	8.5 %	23.6
"	200	3.02	15.1	
Thru	"	15.17	75.85	
		19.89		

#12 Hannover

On	100	2.74	13.7	29.3
"	200	3.12	15.6	
Thru	"	14.04	70.2	
		19.90		

#13 Anchor

On	100	2.72	13.6	29.35
"	200	3.15	15.75	
Thru	"	14.02	70.1	
		19.89		

Rolls corrugated lengthwise 27
of shaft
65 lbs air
20 bronnies Taken after few minutes run

# 2				
On	100	0.67	6.7 %	31.7
"	200	2.50	25.0	
Thru	"	6.7.5	67.5	
		10.12		

∴ Rolls opened about 5/16"

# 5	sample taken immediately after stopping rolls			
On	100	0.38	3.8 %	31.1
"	200	2.73	27.3	
Thru	"	6.82	62.2	
		9.93		

Last of the run from screens

On	100	0.80	8.0 %	46.7
"	200	3.87	38.7	
Thru	"	5.16	56.6	
		9.83		

~~100~~

~~74.7~~

74.7	74.7
87	2.5
5229	3725
5976	1494
64989	186.65

100	
41.7	583
583	106
787	3498
4081	583
4664	61798
4081	
458821	

Some of the clinker over screens after run with conjugate rolls taken — 100 Grammes taken

On .027 sound hole 25.3 Grammes

10 Grammes of Thru .027 taken

On 100	8.70	8.7%
" 200	1.00	1.0
Thru "	0.25	2.5
	9.95	

On .027	25.3	%
" 100	65.0	"
" 200	7.5	"
Thru 200	1.9	"
	99.7	"

" as page 15

65
7
25.3

Beginning of run taken at roller feed

100 Grammes taken

On .027 sound hole 41.7 Grammes 41.7%

10 Grammes of Thru .027 taken

On 100	7.87	45.9 "
" 200	1.06	6.2 "
Thru "	1.00	5.8 "
	9.93	99.6

~~Bad~~ Sample Taken from Roller Feed just before the rolls stopped

100 Grammes

On .027 Screen 42.35 Grammes

10 Grammes of Thru .027 Taken

On	100	7.25
"	200	1.25
Thru	"	1.48
		9.98

80 lbs air — on corrugated Balls

65 Balls thru 9/1000 slots for hour. Speed shaft 185 r.p.m.

No. 1. at the start 10 Grammes taken

on 100 1.65

" 200 3.08

Thru " 5.23 52.5

9.98

No 2 on 100 1.65

" 200 3.00

Thru " 5.30 53.2%

9.95

No 3 on 100 1.75 17.5%

on 200 2.76 27.6

Thru — 5.37 53.7

9.88

No. 4 10 Grammes Taken

On 100 3.52 35.2 %

" 200 3.40 34.0 "

Thru " 3.03 30.3 "

9.95

714
216
4284

714
812
4998

1000
48.4
51.6
30.0
21.6

714
1428
154224

714
714
5712
583338

71.40
18.15
3570
714
0
5712
5712.00
51.85 / 71400 / 129591.00

714
784
2856
5712
4998
559776

100.00
48.15 / 129591.00
30.25
1.85

71400
1295
584

71
3.20
21.3

20.

4.7

80.

16 80.2
83.5
71.5
3 | 2852
884

415
535
50.2
3 | 1452
48.4

535
50.2
2 | 1037
51.85

Run 4' – 3"

Main Shaft 205 r.p.m.

air 80 lbs. 71.4 Billion hour

#1 shortly after starting

on	100	1.95	19.5 %
"	200	2.95	29.5 "
Thru	"	5.02	50.2 "
		9.92	

#2 Shortly after mills stopped

on	100	1.92	19.2
"	200	2.68	26.8
Thru	"	5.35	53.5
		9.95	

#3 about 5 minutes

on	100	2.63	26.3
"	200	3.12	31.2
Thru	"	4.15	41.5
		9.90	

60

24

15

12

756.66

71.4
22.2
49.2

49.66

71.4
31.1
714
714
2142
2220.54

6169
65
845
1014
109.85

6500
109.8
540.2

1000
48.9
51.1
20.0
31.1
7140
1496
564.4

52.5
5.30
5.37
3 | 15.92
5.31

50.2
53.5
43
3 | 1467
48.9

46.9
30.0
16.9

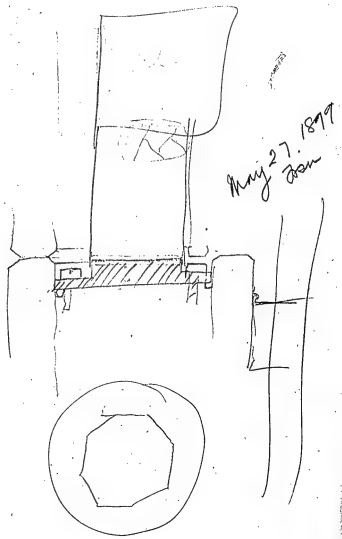
51.1
30
21.1

250
20
500

56
20
11.2

66 = 714
132
79.211
714
714
1428
149.654

12 | 7.5
30
3
90
84
6
2.00
1.50


May 27. 1899
Jam

No 9 Bonneville

on 100	1.67	8.35%	2783
" 200	3.90	19.5 "	
Thru "	14.35	71.75 "	
	19.92		

16 - 3,

250 -

7' 8" 75
3
90 - 2215 -
200
45000

3) 1300
430 ft -

75
200
000

3 ton-ft - 300, ton 65
20
1300
12 -

2 325 5) 6500
20) 1300
1300
100
60
2000
2000

50 80 20 80 00 16 4 6

Test Bars given to Mr. Edison by Mr. Bonneville
Bonneville No 2, 720-782 lbs
" Star No. 1 920-1300 "

[illegible]

See Page 103 other Book 45

#	on 100	100-200	Total Pa 200	Thru 200
#1 Alsens	8.4	13.5	21.9	77.
#2 New atlas	9.2	14.8	24.0	75.2
#3 Edison	3.9	22.0	25.9	73.6
#4 Dry Sandoff	11.6	27.5	39.1	61.4
#5 Old atlas	8.8	19.8	28.6	71.4
#6 Vulcanite	8.0	18.7	26.7	74.0
#7 Gem	8.9	14.9	23.8	76.6
#8 Lehigh	6.6	14.0	20.6	79.0
New screen				
#9 Bonneville	8.35	19.5	27.85	71.75
10 Hoyter	11.6	19.1	30.7	68.75
11 Eagles	8.5	15.1	23.6	75.85
12 Hammer	13.7	15.6	29.3	70.2
13 Anchor	13.6	15.75	29.35	70.1
14 Mean All				

333) 2589.0 | 77.7 $\frac{12}{400} = \frac{3}{100} = \frac{1}{33.3}$

2331
2580
2331
2590

77.7
23.7
5439
2331
1584
185149

77.7
18.5
61.2

333) 2090 | 62.8
1998
920
665
2540

100
25.9 %
741
62.8 Bbls
5928
1482
5046
524348

May 31, 1899 47.

Test 80 lbs air

77.7 Bbls ? 2589 lbs in 5'

On 100	1.91	19.1 %	43.7	
" 200	2.47	29.7		
Thru "	5.50	55		
	9.88			

61.2 Bbls per hour of 80% on 200

Test 100 lbs air 2090 lbs in 5'

On 100	2.00	20 %	45.9
" 200	2.59	25.9	
Thru 200	5.30	53	
	9.89		

1234
989
245

52.4 Bbls per hour of 80% on 200

June 1 2-45 PM started

No 1 2 Grms Lehigh Thru 200 mesh

stirred every minute for ten

minutes. Then five minutes

End	15'	1 3/4"	stirred
	20'	1 7/8"	"
	30'	1 1/2"	"
	45	1 1/2	"
	1' 00	1 1/2	"
	4.30	1 7/16	

June 1, 2-45 PM started

No. 2. 2 Grms Lehigh Thru 200 mesh

Stirred twice first five

minutes then every five minutes

End	15'	2 1/4"	stirred
	20'	2 3/8"	"
	30'	1 7/8"	"
	45'	1 3/4	"
	1' 00	1 5/8	"
	4-30	1 5/8	

3-30 P.M.

No 3 Edison crushing Lehigh Sinter

3 times stirred first five minutes. Then five minutes.

3-45 1 1/2

4-15 2 1/4

No 4 Hercules Fresh No 6

No 5 Hercules Old No 7

025

40
40
1600
40

37,000
320
500
448
52

578

333
333
999
999
999
110889
333
3326.67
332667
332667
36926.37

4-28

No. 8 Second crushing Fresh Hercules

No 9 Hercules Third crusher

No 10 Lehigh Thor 200

No 11 " " " ground a little in mortar

No 12 Lehigh Thor 200 ground a good deal of time, about 10 minutes, in a agate mortar

Lehigh Cement

Sifted Thru 7/100 abt

1st pass 2 coarse 1 Lehigh

On 100	0.06	10.6
" 200	1.	
Thru "	8.87	
	9.93	

2nd Pass

On 100	.04	8.5
" 200	.1	
Thru "	9.09	
	9.94	

3rd Pass

On 100	
" 200	
Thru "	8.89

4th Pass

On 100	.05	8.1
" 200	.77	
Thru "	9.10	
	9.92	

5th Pass.

on 100	.04
" 200	.72
Thru "	9.17
	9.93

6th Pass

on 100	.05
" 200	.75
Thru "	9.12
	9.92

7th Pass

on 100	.03
" 200	1.04
Thru "	8.90
	9.97

8th Pass

Cement Test No 1

Neat Lehigh Cement 25% water
Friday mixed out of mould to grade
Saturday In water
3 days 390 lbs

No. 2. Neat Edison Thin 7/1000 slate
Friday mixed 25% water
out of mould to grade
Saturday In water
3 days ~~150 lbs~~
130 "
160 "

No. 3.
15 oz. Quarty sand
2 oz. Alsen cement
35 cc. water
Day. Moulded 10 AM June 5
out Moulded 11-45 AM 11 "
not long enough.
water Tuesday June 6
Broken Monday June 12 10-45 AM
21 lbs
25 "
25 "
71
23.75

all at climaps

28.35
125
1 oz = 28.35 grms

125
625
125
125
875

2835
15
14175
2835
42525

42.53) 36.000 (.82
35.024
9760

28.35
35
14175
8505
992.20
99

42.53) 40.000 (.94
38277
17230

28.35) 100. (3.5
8505
14950

3 1/2 oz
35

No. 4 12 1/2 oz. Quinty
2 1/2 oz. Alcohol 8.2%
35 cc water about right
a little oz.
Moulded 10 th. Monday June 5
2-30 P.M. broke two pots in
Taking out of moulds
3-30 broke last one

#5 12 1/2 oz Quinty
2 1/2 " Alcohol
40 cc water = 9.4% - right
moulded 12 on June 5, Monday
water " 6 Tuesday

June 12 32 lbs.
34 "
average 33

Alsen cement tried in tubes 3 of water. 2 grammes taken of (7) Thru 200 mesh June 2

(6)	"	190	on	200
(5)	"	180	"	190
(4)	"	170	"	180
(3)	"	160	"	170
(2)	"	150	"	160
(1)	"	140	"	150

(7) rose immediately
(3) " very slowly
(1) rose more than (2) at first
(7) rose more than (6) " "
(6) " " " (5) " "
(5) " " " (4) " "
(4) " " " (3) " "

After 3 hours all but (3) about same height

Jarr 3

3 days later after shaking and allowing to outside 20 minutes.

(1) 1 3/8"
(2) 15/16"
(3) 1/4" — 3/8" white over this
(4) 2 1/4"
(5) 1 3/4"
(6) 1 1/2"
(7) 3" ?

---

again shaken Mr. Edison about 2 hours 30' after.

(1) 1 1/4"
(2) 1 1/8
(3) 3/8
(4) 1 3/4
(5) 1 3/8
(6) 1 1/2
(7) 3 1/8

#6 – 12½ oz quartz
2½ " Atlas new
40 cc water = 9.4 %
amount of water about right.
parts a little wetter than aleens
same amount of water.
In moulds 3 P.M. Monday June 5
" water Tuesday " 6
June 12 Pulled 54 lbs
43 "
97
48.5

Tester parts on glass
3½ oz. Aleen took about 35 cc water
" " Atlas " " 22 " "
" " Edison " " 30 " "
water rose on last part

~~25~~ 28.25
14
11300
2825
39550

2835
14
11340
2835
39690

3.5
3
10.5

Mr. Edison decided, as 5-1 jobs are very tender and give only 70 lbs after a week in air and water to try future tests 3-1

#7 10½ oz. Zinc
3½ oz. atlas
40 cc. water = 10%
a little amount separated.
Moulded 10-15 Am Wednesday June 7, 8
but moulded 12:[illegible] P.M. " " "
in water 12.30 Thursday " 8
Broken Wednesday June 14
10-45 Am
95 lbs
83 " at clamps
95 " " "
3 | 273
91

$$
\begin{array}{r}
78.25 \\
16 \\
\hline
16950 \\
2825 \\
\hline
4520.0
\end{array}
$$

#8

12 oz. Quartz
4 oz. alum
45 cc. water = 10%

Too little water pats very dry

In mould 11 Am. Wednesday June 7
Out " 12 PM " " "
In water 12 " Thursday " 8
Pulled Wednesday June 14 10-45 Am

75 lbs at clamps
60 " " "
39 " " "
174
58

#9 Made glass 3½ oz of Lehigh
" on 100". 20 cc. water 12.30
Thermo 90° 1st set 2-3 hours
wear 2m " 18. "

#10 3½ oz of Lehigh Thm 200
29 cc water 2-15 PM
very dry
4"x4" pat

$\frac{2825}{11300}$

No. 11.–
3½ oz of Lehigh Thin 200
30 cc water
a little too moist
4"×4" pat made on glass

No. 12 – 3 oz Quartz
1 " Lehigh Thin 200
11 cc water = 11%
Moulded 3 P.M. Wednesday June 7
out mould 5.15 " " "
in water 12 m Thursday " 8

Pulled Wednesday June 14
150 Heat clamps

4 : 14 :: 10 : 35

$$4\overline{)140}\ (35)$$

#13 —

3 oz. Quartz
1 oz. 180–190 Lehigh
10 cc. water = 8 3/4 %

In mixing day the 190–190 separated. Made good date —

Moulded 3-20 P.M. Wednesday June 1
out moulds 5-45 " " " "
in vat 12 Thursday 1 8

Pulled Wednesday June 14.

#20 — 20 lbs. of Champs

#14 3½ oz Lehigh on 100
23 cc water
in pot 9 AM Thursday June 8
out moulded 12:30
1 Pat in water from Friday " 9
Pulled from 15-20 lbs clamps

#15 4 oz Lehigh on 100
30 cc water
a little too much water
pot broke nearly all to pieces
in taking out of moulded from —
— from Thursday June 8
In water " Friday " 9

#16 2½ oz Quartz
2½ oz Lehigh on 100
20 oz water O.K.
In mounted 9.30 Am. Thursday June 8
out " 2.15 P.M. " " "
1 foot in water noon Friday " 9
Pulled June 15 – 18 lbs ok

#17 3 oz Quartz
1 oz Lehigh 1.00-140
100 oz water
In mounted 10 Am. Thursday June 8
out " 2 P.M. " " "
1 foot in water noon Friday " 9
Pulled June 15 – 16 lbs clamps

#18 3 oz Quartz
1 oz. 150–160 Lehigh
10 cc water
in mould 11-15 AM Thursday June 8
out " 2-30 PM " " 9
1 Pat in water room
Broken in clamp in machine

#19 3 oz Quartz
1 oz 160–170 Lehigh
10 cc water
in mould 11-30 AM Thursday June 8
out " 2-30 PM " " 9
1 pat in water room
Pulled June 15 16 lb clamps

#20 see #13

3 oz Quality
1 oz Lehigh 180-190
10 cc water
in moulded 12 M Thursday June 8
out " 2-30 " " "
1 Pat in water noon Friday " 9

Pulled June 15 19 lbs at clamps
See #13 20 "
— #22 15
15
70
17 1/2

#21 6 oz Quality
2 lb Lehigh Three Star
22 cc water
moulded noon Thursday June 8
out moulded 2.30 PM " " "
Just 2 pats in water noon Friday " 9
Pulled June 15 202 lbs at clamps
223 " at "
425
212 1/2 lbs

10 1/2
8 1/2
14

2825
14
1130.0
2825
3955.0

#22 10 1/2 oz Quartz sand
3 1/2 " Lehigh 180-190
35 cc water = 8 3/4 %
moistened 3-30 Thursday June 8
3 pats see #13 & #20 5 pats
out 5-45 P.M. " "
in water noon Friday " 9
one broke in clamps in machine
Pulled June 15 16 lbs at clamps
15 " " " "
see #20 — 15 1/2

#23 10 1/2 oz. Quartz sand
3 1/2 " Regular Lehigh
40 cc. water = 10 %
moistened 4-15 P.M. Thursday June 8
3 pats out 5-45 " " "
in water noon Friday " 9
Pulled June 15 137 lbs clamps
137 " "
153 " ok
427
142

Scheme of Tests

Sift enough each kind of cement to make test.

	2 parts	neat	on 100
	2 or 3 "	1-1	on 100
	3 "	3-1	100-140
Omit	3 "	3-1	160-180
	3 "	3-1	180-190
	3 "	3-1	"Thru 200"
	3 "	3-1	1st run "Thru 200"
	3 "	3-1	2nd " " "
	3 "	3-1	~~run of cement~~
	3 "	Same amount of 3-1 "Thru 200" that is in last test	

pull in 7 days
1 day air 6 days water.

#24 10½ oz Quartz
3½ oz 100-140 Lehigh
35 cc water
in moulded 9 A.M. Friday June 9
out " Noon " "
in water " Saturday " 10
one foot in air Thursday June 15
June 16 air Bookke less than 10 lbs
" " " "
" " " "

#25 – 10½ oz Quartz
3½ " 160-170 Lehigh
35 cc water
in moulded 9 A.M. Friday June 9
out " Noon " " "
in water " Saturday " 10
one foot in air Thursday P.M. June 15
June 16 air Bookke less than 10 lbs

3½ oz Lehigh Cement Thru 200

= 3.5 X 8/10 =

or 1/5 less = 2.8 oz.

7/10 oz = 21.77 Grammes

28.25
.7
21.775

10.5
2.8
13 3

28.25
133
8475
8475
2825
37725

35 | 133.3 (3.8
105
280

35 | 37725 (9.28
3384
1160

91

#26 10½ oz Quarty

3½ oz less 21.75 Grammes of Thru 200 Lehigh

35 cc water 9.2%

Mould 10-15 Am Friday June 9

Two wood — One Brass

This represents the finies in plate 3-1 all coarse left out. Pat from times mould both out mould 12 m Friday June 9 in water from Saturday 11 10 one pat in air Thursday June 15-2 40

Pulled June 16

water 240 clamps
215 ok
455
227½

#27 — 10½ Oz ~~Quartz~~
3½ oz Lehigh First sieve out
of 10 oz "Thurs. 200" mesh screen
40 cc water
in mould 11-15 Am Friday June 9.
out mould 12 m " " "
in water ~~Thursday~~ Saturday " 10
one foot in air Thursday June 15 247 lbs at
Pulled June 16 at clamps water 325 " "
" " " 318 " "
890
297

#28 — 10½ Oz Quartz
3½ oz Lehigh 2 and ~~1/2~~
out of 10 oz "Thurs 200"
40 cc water
in mould 11-45 Am Friday June 9
out 12-30 " " "
in water " Saturday 1. 10
one foot in air Thursday PM Jun 15.
air 269 lbs clamps
water 262 " "
Pulled June 16 " 252 " "
783
261

#29 Aleens

3½ oz On 100

30 cc water ok

moved 8-45 Am Saturday June 9/0

out " 11-30 " " " "

in water 96°F " Sunday " " 11

Pulled Jun 17 105 lbs ok

#30 Same as #29

moulded 8-45 Am Saturday June 9/0

out " 11-30 " " " "

in water " Sunday " " 11

Pulled Jun 17 103 lbs at clamps

105

average 104

#31 5 oz Quartz 100
5 oz Alsen on 100
50 cc water
moulded 9 Am Saturday June 10
wet " 11-30 " " "
2 pots in water noon Sunday " 11
Pulled June 17 - 52 lbs at clamps
51 " " "
average 51½ lbs

#32 10½ oz Quartz
3½ oz Alsen cement
50 cc water
wood moulded 10-30 Am Saturday June 10
wet " 11-30 " " " "
in water noon Sunday " 11
Pulled June 17 162 lbs OK
" " 181 " clamps
" " 194 " OK
527
176 lbs

#33 10 1/2 oz Quartz
3 1/2 oz Alacus Thru 200
50 cc water
mold Mould 11 Am Saturday June 9 0
out 12-30 " Sunday " 11
in water noon " " "
Pulled ~~Tuesday~~ Saturday Jun 7 317 lbs clamp
291 " ok
310. " clamp
918
306

#34 10 1/2 oz Quartz
3 1/2 oz Alacus 180-190
40 cc water
Mould 11-20 Saturday June 9 0
out " 12-30 " "
in water noon Sunday " 11
Pulled Saturday June 17 45 lbs clamp
46 " ok
45 " "
136
45 1/2

#35 10½ oz Quartz
3½ " Alum 160-170
35 oz water
Moistened 12-05 Saturday June 9 0
out 1 2-30 " " "
in water noon Sunday " "
Pulled June 17 32 lbs Clamp
34 " "
35 " "
3) 101
33⅔

#36 10½ oz Quartz
3½ oz Alum 100-140
35 oz water
wood Moistened 12-20 Saturday June 10
out 2-30 " " "
very tender in water noon Sunday " "
Pres Chan 10 lbs June 17
" " 22 " " "
" " 24 " " "
3) 56
19 lbs

~~#37 10½ oz Quartz~~
~~3½ oz Alum less 21.75 Grams~~
~~35 cc water~~
~~Moulded 12-45 Saturday June 9~~
~~out 2.20 " 12~~
~~in water noon Sunday " 11~~
~~8 Days Pilled Monday 184 lbs ok~~
~~157 " "~~
~~265 " "~~
~~606~~
~~202 lbs.~~

#38 10½ oz Quartz
3½ oz Alum first run
from 11 oz Alum "Shun 200"
40 cc water
Moulded 3-P.M. Saturday June 10
out mould 4.30 " 12
in water noon Sunday " 11
Pilled June 276 lbs Lumps
269 " ok
315 " "
860
287

#39 10½ oz Quartz
3½ Edison Second run
from 11½ oz "Thorn Dust"
40 cc water

Moulded 3+8 Pm Saturday June 10
out mouldd 4.30 " Sunday " 11
in water noon

Pulled June 17 232 lbs clamps
224 " OK
213 " "
3 | 669 223

#40 10½ oz Quartz
3½ oz Edison Thorn 7/1000 slt
35 cc water

in mould 11.45 Am Sunday June 11
out " 1.50 " " " 12
in water Monday

70 lbs ok
67.1 clamps
Pulled June 18 68½

41 10½ oz. Quartz
3½ " Dyskerhoff
35 cc water
moulded 12 noon Sunday June 11
out 1-50 " " "
in water noon Monday " 12
Pulled June 18 128 lbs damp
101 " "
239
119½

42 10½ oz. Epsom salts from pile
3½ oz Alsen
50 cc water dry
Moulded 10 AM Monday June 12
in water noon Tuesday " 13
Pulled Monday June 19 65 lbs damp
76 " "
56 " "
197
65⅔

#43, 10½ oz Quartz
3½ oz Dyckerhoff Thru 200
35 cc water

Moulded 11 A.M. Monday June 12
in water noon Tuesday " 13

Pulled June 19. 109 lbs clamps
142 " OK
125 " clamps
376
125⅓

see #68

#44 10½ oz Quartz Dyckerhoff
3½ oz 1st run Thru 200
35 cc water

Moulded 12 m Monday June 12
in water noon Tuesday " 13

108 lbs clamps
134 " OK
108 " clamps
350
116⅔

45 10½ oz Quartz Dryokerkoff
3½ oz 2nd run from 200
see #69
35 cc
mixed 12-30 Monday June 12
in water Tuesday " 13
Rolled June 19 98 lbs damp
101 " OK
106 " damp
305
101½

#46 7 oz Dryokerkoff on 100
60 cc water too much
not enough to make two forts
by material added to same
fort
#46 wet
mixed 8-45 Tuesday June 12
out 1-15
in water noon Wednesday " 14

#47 Dry bottom in taking out
June 20 - 122 lbs OK.

Test of 39" rolls with Force 13, 118
wide corrugations and large rolls
80 lbs. air 10 Grams taken

On 100	1.25	12.5	40%	
" 200	2.75	27.5		
Thru "	5.85	58.5		
	9.85	98.5		

Load on Main Shaft 231 r.p.m
No " " " " 260 "

Elevator worked highly
Lavery said too fast speed

28.25
16
16950
2825
45200) 650 (14.4
452
1980
1808
1720

#48 8 oz Quartz
8 oz Dyckerhoff on 100
65 cc water = 14.4
in mould 10 am Tuesday June 13
out " 11-30 " "
in water noon Wednesday " 14
Pulled June 20 46 damp
58 "
54 ok
158
52 2/3

49 10 1/2 Quartz
3 1/2 Dyckerhoff Ilsa 200
35 cc water Dry
In mould 11-30 Tuesday June 13
out " " " "
2 Brass moulds
1 wood
in water noon Wednesday " 14
Pulled June 20 81 Very damp
108 " "
99 " "
288
96

#50 10½ Quarts
3½ Dyckerhoff Thru 200
45cc Water ok
Moulded 2-P.M. Tuesday June 13
out
in water Noon " Wednesday " 14
Pulled June 20 170 clamp
205 ok
181 clamp
656
185 lb.

#55 10½ Quarts
3½ oz Dyckerhoff Thru 200
55 cc water — water —
— Have to top
Moulded 3-0 P.M. Tuesday June 13
out
in water 5 Noon " Wednesday " 14
213 lbs ok
193 "
203 "
609
203

28.25
6
169.50

#60 10½ oz Ethan Sand
3½ oz Alcen
60 cc water & little water

rose
mixed well 4.5 P.M. Tuesday June 13
out
in water 5 noon " Wednesday " 14
Pulled June 20 - 109 lb OK
121 " clump
73 " OK
303
101

#61 4½ oz Quartz
1½ oz Alcen Thm 200
added 40 cc water powdery
not mixed
15 cc cohesive slippy and
does not wetter time
21 cc ~~about~~ right
amount to work well
25 cc still right a
little wet apparently
30 cc ~~mushy~~
35 " ~~wetter~~
40 " water mass out of house made
Two hours final set.

#62 4½ oz Quarty
1½ oz Eagle Thin Dry
added water
10 cc Dry ~~wet~~ powdery
17 " "
20 " very fair
25 " good but wet water
rises to top of # mass on
pattering
31 cc mushy
36 ~~[illegible]~~ It wrating ~~[illegible]~~
43 water run out
Made put on glass
After 11 hours wet fluid set

#63 Lot 1/2 oz Quartz
1 1/2 oz Lepidol Thm 200

10 sec water dry powdery
15 " " just cooking
20 " " right for wet
25 " " see to top
30 mushy
35 working
40 " ~~at~~ aspirated
made pat on glass.
after 16 hours not find at

226) 55 (24.3
45.2
940
904
76

see #46

#64 8 oz. Dyckerhoff on 100

55 cc water = 24.3%

Moulded 10-15 Am Wednesday June 14

Cut 12-30 " " " June 14

water

Pulled June 21 53 lbs clamp

" 45 " "

98

49

#65 10½ oz Ehrenfeld Sand

3½ oz Dyckerhoff Thru 200

60 cc water

Moulded 10-30 Am Wednesday June 14

cut " 12-30 " " " " 15

water

June 21 224 lbs OK

217 " clamp

209 " OK

645

215 lbs

10.5
2.5
13

28.25
13
8475
2825
36725) 40 (10.9
367
330

10½ 25) 10.2 (4.08
12
200

10½ oz Quarts
66 2½ oz Dyckerhoff Thm 200
representing about amount of "Thm 200" in 2½ oz Dyckerhoff.
40 ~~55~~cc water
Moulded 11-45 Wednesday June 14
Put water 2 PM " " " " 15
Pulled June 21 156 lbs clamp
183 " ok
187 " "
526
175

67 10½ oz Quarts
3½ oz Dyckerhoff 180-190
40 cc water
Moulded 12-15 Wednesday June 14
put water 2 " " " " 15
Pulled June 21 34 lbs clamp
33 " "
40 " ok
107
35⅔

#68 10½ oz Quartz
2cc Xs 44
3½ oz Dyckerhoff 1st run
Thru 200 mesh
40 cc water dry
out Moulded 3 P.M. Wednesday June 14
" " " " " 15
water
Pulled June 21 168 lbs clamps
146 " "
140 " "
454
151

#69 10½ oz Quartz
Sec. 3½ oz Dyckerhoff 2nd run
#45 Thru 200 mesh
40 cc. water dry
out Moulded 3-30 P.M. Wednesday June 14
5 " " " " 15
water
Pulled June 21 154 lbs clamps
146
127
427
142½

#70 10½ oz Quarts
3½ oz Dyckerhoff Stone 2-1
40 cc water

Invoiced ~~4.00~~ 4.00 Wednesday June 16
5 " " "
water

Pulled June 21 150 lbs clamps " 15
115 " " "
77 " " "
372
114 lbs

#71 4½ oz Quartz
1½ oz Vulcanite Thru 200
40 cc water ~~not~~ wetting
June 14 4-30 made plate
on plate 4"X4"
24 hours not hard

#72 4½ oz Quartz
1½ " Lehigh Thru 200
40 cc water wetting
on plate 4"X4"
24 hours not hard

#73 4½ oz Quartz
1½ oz alum Thm 200
40 cc water waring
on glass plate
June 14 on pl. Cat. 4"X4"
24 hours hard
48 hours harder than #71 & #72

#74 4½ oz Quartz
1½ oz Dychromate Thm 200
40 cc water
on glass plate 4"X4"
24 hours hard
48 " harder than #71 & 72

#75 10½ oz Quartz
3½ " 100-140 Dyckerhoff
40 oz water
mixed 9-45 AM Thursday June 15
water 2 PM " " " 16
Rolled June 22 25 lbs damp
24 " "
23 " "
72
24

#76 10½ oz Quartz
3½ oz 150-160 Dyckerhoff
45 oz water
mixed 10-15 AM Thursday June 15
water 2 P.M. " " " 16
Rolled June 22 23 lbs damp
" 30 " "
" 30 " "
83
27⅔

28.25
14
11300
2825
37550) 75.00 (19
39.55
35450
31595

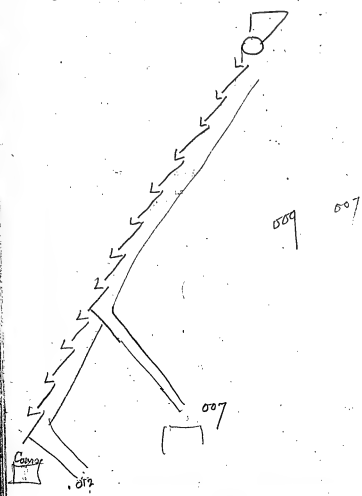
#77 10½ oz Quartz
3½ " 160-170 Dyckerhoff
450 cc water
moulded 10-30 Am Thursday June 15
AT 2 PM " " "
water " " lb
Pulled June 22 32 lbs. clamps
22 " "
21 " "
75
25

#78 10½ oz Quartz
3½ oz Dyckerhoff Thru 200
fuels cooled not reverse dots
6 cc water water rose
Moulded 3 P.M. Thursday June 15
ad AT 5.15 12 " lb
water
Pulled June 22 97 lbs ok clamp
119 " " "
106 " AT
322
107⅓

#79 10½ oz Quartz
3½ " Lehigh Thin 200
75 cc water very wet
Mr Schein made one pot
" " " "
moulded 3 P.M. Thursday June 15
out 5-30 " " 16
water
Pulled June 22 151½ clumps
114 " OK
265
132½

#80 10½ oz Quartz
3½ " Alsen Thin 200
75 cc water
moulded 3-15 Thursday June 15
one pot out 5-30 " "
Two " in 9-30 Friday " 16
water " 16
Pulled June 22 122 clumps
156 "
170 OK
458
152⅔

Roller feed to be run by motor
6" roll feed 20 r.p.m.



vary proportions
" amounts fed
" in screen plates
vary size at .012

2000
3000
40 up to 6000 -

#81 10½ oz Quartz
3½ oz Vulcanite Thru 20v
75cc water very wet
Moulds 4.P.M. Thursday June 15
out 9-30 Friday " 16
water Pulled June 22 159 lbs ok
145 " damp
202 " ok
506
168½

#82 10½ oz Quartz 10 mesh
3½ oz Vulcanite Thru 20v
45cc water
Moulds 4-30 Thursday June 15
out 5-30 " " 16
water Pulled June 22 322 lbs. ok
331 " damp
286 " ok
939
.313

#83 10½ oz Quartz 147
3½ oz Vulcanite 2nd run
Thru 200
45 cc water
moulded 4-45 Thursday June 15
water 16
Pulled June 22 265 lbs ok
261 " "
257 " "
783
261

#84 10½ oz Quartz
3½ oz Edison Thru 200
40 cc water
moulded 9-45 Friday June 16
Run " " "
water Run Turn 17
Pulled June 23 82 lbs clamps
102 " "
115 " "
299
99⅔

#85 | 7 oz of Vulcanite taken and sifted

3½ oz on 200 mesh

10½ oz Quartz

40 cc water OK

Moulded 10-10 Friday June 16

out water — Am noon — " " 17

Pulled June 23 71 lbs clumps

67 " "

57 " OK

197

65 2/3

86 10½ oz Quartz

3½ oz Vulcanite thru 200 from 7 oz above mentioned

42 cc water +

Moulded 10-30 Friday June 16

out water — Am noon — " " 17

Pulled June 23 289 lbs OK

365 " "

355 " "

1009

336 1/3

226) 350 (1.54
226
1240
1130
900

87 8 oz Vulcanite On 100
35 cc water = 15.4%
mould 10-45 Friday June 16
out noon — " "
water noon " 17
pulled June 23 ◯ lbs 2 pots
pots cracked badly

88 10½ oz Quartz
3½ " Vulcanite
40 cc water
mould 11-45 Friday June 16
out 8 m — " "
water noon " 17
Pulled June 23 229 lbs OK
187 " "
220 " Clamp
636
212

267 733
35 35
3665
2199
2565

3672) 85000 (95
33045
19320

#89 10½ oz. Quartz.
3½ oz. Vulcanite, Thru 200
40 cc. water
Moulded 2-45 Friday June 16
out 5.15 " " "
water room " 17
Pulled June 23 270 lbs OK
295 " "
315 " "
880
293½

#90 10½ oz. Quartz.
2½ oz. Vulcanite, Thru 200
35 cc. water
Moulded 3-15 Friday June 16
out 5.30 " " "
water room " 17
Pulled June 23 210 lbs OK
197 " damp
143 " "
550
183½

184) 1000 (5.43
920
800
736
640

00543
0022
323

Freddie 11 years
Riehle wire dia" .0024 diam
25 in 1/8" or 200 per inch
~~Dig~~ eye hole 0.0025 across
$\boxed{0026}$

New screen
wire 0".0022 diam
has 23 in 1/8" or 184 per inch
hole is 0.004 $\boxed{0.00323}$

#91 8 oz Vulcanite Thru 200
taken and sifted in 2 oz
lots - was twice sifted
10½ oz Quartz
3½ oz First lot Thru 200
40 cc water
Started 4 P.M. Friday June 16
out 5-30 " " "
water moon " " 17
Pulled June 23 335 Ups OK
395 " " very damp
363 " "
1093
367 1/3

#92 2nd Lot Thru 200
10½ oz Quartz
3½ oz Vulcanite 2nd Quartz Thru 200
40 cc water
Started 4:30 - P.M. Friday June 16
out 5-30 " " "
water moon " 17
Pulled June 23 296 Ups clamp
329 " OK
327 " "
952
317 1/3

#93 4th Quarter Volcanite Thru 200

10½ oz Quartz

3½ oz 4th Quarter Thru 200

4000 water

Did not stick to brass mould

~~to~~ over it was difficult to turn mould

Moulded 4:45 P.M. Friday June 16

cure 5:45 " " " 17

water sprue

Pulled June 23 144 lbs OK

149 " "

135 " clamps

428 132⅔

#94 1st Quarter Alsen Thru 200

10½ oz Quartz

3½ oz Volcanite Thru 200

1st Quarter

4200 water

Moulded 5:15 Friday June 16

cure 5:45 " " " 17

water sprue

Pulled June 23 290 lbs OK

272 " clamps

257 " "

819 273 lbs

#95 ~~4th~~ 4th Quarter Alaska
10½ oz Quarty
3½ oz 4th Quarter Alaska
40 cc water
moulded 5-20 PM. Friday June 16
2 out 5-05 " " " " 17
water ~~noon~~
Rolled June 22 119 lb clamp
132 " OK
132 " clamp
383 127 2/3

#96 Alaska Thor 200 Split with four parts by screening Thor 200 meat
10½ oz. Quarty
3½ oz. 4th Quarter Alaska Thor 200
40 cc water
moulded 9-15 AM Saturday June 17
water ~~noon~~ " 18
Rolled June 24 92 lb ~~lb~~ clamp
133 " OK
183 " "
408
136

#97 10½ oz Quasty
3½ oz 1st Quasty Thru 200
40 cc water Alsens
Moulded 9-40 Saturday June 17
water noon " 18
Pulled June 24 280 lb ok.
323 " "
332 " clamp
935
311⅔

#98 10½ oz Quasty
3½ oz 2nd Quasty Thru 200
40 cc water Alsens
Moulded 10-Am Saturday June 17
water noon " 18
Pulled June 24 242 lb ok
271 " clamp
162 " "
675
225

#99 10½ oz Quartz
3½ oz 3rd Quarter Thur 200
40 cc water Albany
~~[illegible]~~ 10-20 Am Saturday June 17
out noon " " 58
water " "
Pulled June 24 298 lbs OK
241 " clamp
234 " OK
773
257 2/3

#100 Lehigh split see #96
4th Quarter or Cossen
10½ oz Quartz
3½ oz 4th Quarter 7 hour 200
40 cc water Lehigh
mould 10-45 Am Saturday June 17
out noon " 18
water "
Pulled June 24 134 lbs Lump
122 " OK
128 " "
384
128

#101 10½ oz Quartz
3½ oz 1st Quartz Jan 20
Lehigh

moulded 11-50 am Saturday June 17
out " " " " "
water " " " 18
Pulled June 24 200 lbs clamp
295 " OK
204 " "
799
266⅓

#102 10½ oz Quartz
3½ " Edison as through seg-
ular reserve about 760 lbs an
hour.
38 oz water
moulded 9-45 am Monday June 19
out " " " "
Pulled June 26 39 lbs clamp
37 " OK
38 "
114
38 lbs

#103 10½ oz Quartz
3½ oz Edison same as in
#102 ground by 500
turns in rotary mortar
40cc water
moulded 10-15 Monday June 19
out oven " " " 20
Pulled June 26 141 lbs OK
142 " OK
134 "
417 139

#104 10½ oz Quartz
3½ " Lehigh regular
moulded 11-45 Monday June 19
out oven " " 20
Pulled June 26 168 lbs Clamp
175 " OK
150 " Clamp
493
164⅓

2-1	Regular	Throw 200	1st Rim Throw 200	2nd Rim Throw 200	180 - 190	Size 100
high	142	212	297	261	17½	18
lean	176	306	287	223	45	105
[illegible]	119	125	119	102		122

Edison "500 Turns Reg" #103 139 1/10
" " 3rd 1/4 " #108 171 "

	3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1	
	Regular		Thorn 200		1st 1/2 Thorn 200		2nd 1/2 Thorn 200		1st 1/4 Thorn 200		2nd 1/4 Thorn 200		2nd 1/4 Thorn 200		4th 1/4 Thorn		1st 10 -190		On 100		On 100					
	Gr	Ends	Gr	Ends	Gr	Ends	Gr	Ends									Gr		Gr		Gr							
Lehigh	10	142	9	212	10	297	10	261	10	266					10	127	8 3/4	17.15	18	23		15						
	x	164	9.12	227													7	19										
			19	132																								
Alsen	10	58	12 1/4	306	10	287	10	223	10 1/2	273	10	225	10	258	10	127	10	45	17	57	30	104						
	12 1/2	176	19	156					10 1/2	212					10	136												
Bychuchoff	8 3/4	119	8 3/4	125	8 3/4	117	8 3/4	101	10	139					10	86	10	36	14.4	122	x	132						
			9	80																	24.2	49						
			11 1/4	185	10	157	10	192																				
			13 1/4	223																								
			16	112																								
Vulcanite			19	149	11 1/4	313	11 1/4	261	10	364	10	317			10	133					18.4	0						
Atlas	10	152	10	226					10	328					10	189												
Edison	10	38			10	50			10	85					4th	32												

65
29
94

875
25
4375
1750
21875

13.4
218
1072
134
268
29.212

65 | 875 (13.4
65
223
193
300
260

218
875
1093

#105 10½ oz Quartz
3½ oz Edison Thru 200 regain
sifted 1st Quarter
40 cc. water
mixed 12-15 Monday June 19, 1899
wet PM " " " "
Pulled June 26 110 lbs oak 20
" " 74 " lamp
70 " "
254
8 4 2/3

#106 10½ oz. Quartz
3½ oz. Edison Thru 200
4th Quarter on sieve
40 cc. water
mixed 12-45 Monday June 19, 1899
wet PM " " " "
Pulled June 26 29 lbs lamp
34 " "
32 " "
95
31 2/3

#107 10½ oz Quartz
3½ oz Dixie Kopp Thru 20
4th Quartz on cure
240cc water

Mixed 1 — P.M. Monday June 19
" " " " 20
wet 5 water
Pulled June 26 86 lbs ok
78 " "
94 " clumps
258
86

#108 10½ oz Quartz
3½ oz Edison 3rd Quartz
Thru 200 times in mortar. Ground 500
40cc water

Mixed 2-30 P.M. Monday June 19
wet 5 water " " 20
Pulled June 26 158 lbs ok
200 " clumps
156 " "
514
171⅓

#109 10½ oz Quality
3½ oz 1st Quality Thins
200 hydrochloric
140 cc water
weighed 3-15 PM Monday June 19
out 5.30 " " " "
Rolled June 26 167 lb clamp 20
149 " "
101 " "
417
139

#110 — 10½ oz Quality
3½ oz 1st Quality Thins 200
40 cc water
Data very thoroughly worked home
weighed 4-15 Monday June 19
out 6 " " " "
Rolled June 26 330 lb OK
336 " "
328 " clamp
994
328

#111 10½ oz Quartz
3½ oz Atlas Thrm 200
[illegible] Quartz on Dogwood
40 oz water
moulded 4-30 P.M. Monday Jun 19
out 6 " " " " 20
Pulled June 26 165 lbs clamp
159 " oak
184 " "
508
169⅓

#112 10½ oz Quartz
3½ " Atlas Thrm 200
40 oz water
moulded 5:30 P.M. Monday June 19
out 6 " " " " 20
Pulled June 26 253 lbs oak
210 " clamp
216 " "
679
226⅓

#113 10½ oz Quinoty
3½ oz Atlas
40 cc water

mould 5. 50 pm Sunday June 19
Pulled June 26 173 lbs OK " 22
130 " "
154 "
457
152⅓

June 19 1899 6-P.M

Rolls set down 1. 25" chain.

6" across corrugations

About 2/3 fresh material

Roller feed of 3½" and rolls required to take material as fast as it was delivered from roller feed. Material brushed out by lower side of roller feed

80 lbs air

Roller Feed closed to ~~2½"~~ 2½"

material ran in O.K. 80 lbs

sample taken at end of 5 minutes

11 Grammes taken

Or 100 ones

1.5	15
1.85	18.5
6.25	62.5
9.60	

June 20 1899

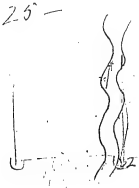
Lot 60	#1 - 109 lb.	OK.	
	#2 - 121 "	clamp.	
	#3 - 73 "	OK	
Lot 55	#1 - 213 "	OK	
	#2 - 193 "	"	
	#3 - 203 "	"	
Lot 49	1 - 81	clamp.	
	2 - 108	"	
	3 - 99	"	
Lot 48	1 - 46	"	
	2 - 58	"	
	3 - 54	OK.	
Lot 50	1 - 170	Clamp.	
	2 - 205	OK	
	3 - 181.	Clamp. from mold	
# 46	122	OK.	

175 —

25 —

100 —

85 —



74 —

2 6.0

12.80 / 72 / 8.0

6.6 × .2 / 32

6/80 / 113.13 —

2 —

$2\frac{1}{4}$ —

$2\frac{1}{2}$

June 21 —

L.K. 64	#1 = 53	1/4 Clamp.
	#2 = 45	" "
65	1 = 224	O.K.
	2 = 212	Clamp.
	3 = 209	O.K.
66	1 = 156	Clamp.
	2 = 183	O.K.
	3 = 187	O.K.
67	1 = 34	Clamp.
	2 = 33	
	3 = 40	O.K.
68	1 = 168	Clamp.
	2 = 146	"
	3 = 140	"
69	1 = 154	"
	2 = 146	"
	3 = 127	"
70	1 = 150	"
	2 = 115	"
	3 = 77	"

June 22

Test made

10 Grammes Tahm

On	100	1.85	18.5
Thm	200	57.0	57 %

111 Bbls.

92 Bbls of cement 25% on 200 meet on hour

This grinding was on new clinker from Lehigh

Alcon	$Zn(NO_3)_2$	Lbs
#8 Reg	10	58
32 "	12½	176
60 "	15	101

On 100 neat	
	$Zn(NO_3)_2$
#29	30	10#

Thin 200 $Zn(NO_3)_2$

#33	12½	306
50	19	153

Fresh ½ Thin 300

38	10	287
39	10	223

50 | 400 (2.66 [illegible]
300
1000
1900
1000

25 | 840 (33
75
90
90

25.

400 | 2240 (5.6
2000
2400

150
56
90
90
75000
84

Notebook, N-99-06-22.1

N-99-06-22-1

ement Notes
June 22, 1971
ington

1

Alsen

No.	Sand Cement	Mesh	Sp. Gr.	Lbs.	Pull lbs.
8	3 — 1	Reg.	10	75	108
29/30	neat	20/100	30	100	104
31	1-1	" "	17	72	51
32	3-1	Reg.	12½	144	176
33	3-1	Thru 200	12½	317	306
34	3-1	180-190	10	96	45
35	3-1	160-170	10	35	33⅔
36	3-1	100-140	8¾	64	19
38	3-1	First ½ Thru 200	10	375	287
39	3-1	Second " " "	10	232	223
42	3-1 Alum	Reg	Dry 12½	76	66
60	3-1 "	Reg	15	121	101
80	3-1	Thru 200	19	170	153
94	3-1	First ¼ Thru 200	10½	290	273
95	3-1	Fourth ¼ " "	10	132	127
96	3-1	Fourth ¼ " "	10	153	136
97	3-1	First ¼ " "	10½	332	312
98	3-1	Second ¼ " "	10	271	225
99	3-1	Third ¼ " "	10	278	258
122-3	3-1	Second " "	12½	3	270
128	3-1	Third ¼ " "	12½	3	323
129	3-1	Alum Reg	12½	3	127
130	3-1	Reg	12	3	85
131	3-1	"	14	3	132
132	3-1	Thru 200	14	3	271
133	3-1	" "	12½	3	283

Lehigh

No.	Food Comment	Meat	Z water	No Pots	Pull lbs
12	3 – 1	Thru 200	11	1	150
13	3 – 1	180 - 190	8 3/4	1	20
14	meat	on 100	23	1	15
15	"	"	31	1	—
16	1 – 1	"	15	1	18
17	3 – 1	100 - 140	9	1	16
18	3 - 1	160 - 160	9	1	—
19	3 - 1	160 - 170	9	1	15
20	3-1	180-190	9	1	19
21	3-1	Thru 200	9	2	228 212
22	3-1	180 - 190	8 3/4	2	16 15
23	3 - 1	Rug	10	3	153 172
24	3 - 1	100 - 140	8 3/4	3	100 10
25	3 - 1	160 - 170	8 3/4	3	100 10
26	3.8 – 1	Thru 200	9.2	2	256 227
27	3-1	Start 1/2 Thru 200	10	3	255 297
28	3 - 1	Second " " "	10	3	269 261
29	3 - 1	Thru 200	19	2	150 132
100	3 - 1	Fourth 1/2 Thru 200	10	3	134 128
101	3 - 1	Start 1/4 " "	X	3	300 266
104	3 - 1	Rug	Y	3	175 164

Dyckerhoff

124	3-1	Fourth 1/4 Thm 200	12 1/2	3	138
125	3-1	3rd " " "	12 1/2	3	213
126	3-1	2nd " " "	12 1/2	3	221
127	3-1	1st " " "	12 1/2	3	214

Dyckerhoff

No.	Sand	Cement	Mesh	To water	Min	Sec.
41	3-1	Reg	8 3/4	2	129	119
43	3-1	Thm 200	8 3/4	3	142	125
44	3-1	First 1/2 Thm 200	8 3/4	3	134	117
45	3-1	Second " " "	8 3/4	3	106	101
46-47	Mesh	On 100	Ave known	1		122
48	1-1	" "	14.4	3	58	53
49	3-1	Thm 200	8 3/4	3	108	96
50	3-1	" "	11 1/4	3	205	185
55	3-1	" "	13 3/4	3	213	203
64	Mesh	On 100	24.3	2	53	49
65	3-1	Edison Thm 200	15	3	224	215
66	4.08-1	" "	10.9	3	187	175
67	3-1	180-190	10	3	40	36
68	3-1	First 1/2 Thm 200	10	3	158	151
69	3-1	Second " " "	10	3	154	142
70	3-1	Thm 200	10	3	150	114
75	3-1	100-140	10	3	25	24
76	3-1	150-160	11 1/4	3	30	28
77	3-1	160-170	11 1/4	3	32	25
78	3-1	Thm 200	19	3	119	107
107	3-1	4th 1/4 Thm 200	10	3	94	86
109	3-1	1st 1/4 " "	10	3	167	139
120	3-1	2nd " " "	15	3		166
121	3-1	3rd " " "	12 1/2	3		197

Edison

No	Land Cement	Mesh	Z motor	No.		Lbs.
40	3-1	Thru 7/0	8 1/4	2	70	68
84	3-1	Thru 200	10	3	115	100
102	3-1	Reg "7 Bbls"	9 1/2	3	39	38
103	3-1	Reg 7/0	500 Immediate	3	142	139
105	3-1	Thru 200 1st 1/4	10	3	110	85
106	3-1	" 1 4th 1/4	10	3	34	32
108	3-1	7th 1/4	500 Immediate	10	3	171
114	3-1	Fourth 1/4 Thru 200 "11 Bbls"	10	3	20	78
115	3-1	Third " " " " "	10 1/4	3		224
116	3-1	Second " " " " "	10 1/2	3		292
117	3-1	First " " " " "	10 1/2	3		310

Vulcanite

No.	Sand Cement	Mesh	% water	No.	Lb.
81	3-1	Thru 20	19	3 202	169
82	3-1	First 1/2 Thru 20	11 1/4	3 331	313
83	3-1	Second " " "	11 1/4	3 265	261
84	3-1	Coarse Thru 20 - 1/2	10	3 71	66
86	3-1	Fine Thru 20 - 1/2	10 1/2	3 365	336
87	Neat	On 100	15.4	0	0
88	3-1	Reg	10	3 229	212
89	3-1	Thru 20	10	3 315	293
90	4.08-1	Thru 20	9 1/2	210	183
91	3-1	First 1/4 Thru 20	10	3 395	364
92	3-1	Second 1/4 Thru 20	10	3 339	317
93	3-1	Fourth 1/4 Thru 20	10	3 149	133

Vulcanite

Atlas

Number	Meat	Rent	No.	Lbs
110	3-1	1st 1/2 Shoulder	10	3 326	326
111	3-1	4th 1/4 " "	10	3 184	169
112	3-1	Shoulder	10	3 258	226
113	3-1	Rig	10	3 173	152
118	meat	on 100			7

#135 Quartz 10½ oz
3½ oz Edison Thru 100
111 Bbls New Cinders
40 cc water
in moved 10-45 Am Monday July 3
Pulled July 10 76 hrs clamps
41 " ok
59 " "

#136 10½ oz Quartz
3½ oz Edison Thru 200
111 Bbls New Cinders
40 cc water
in moved 11-15 Am Monday July 3
Pulled July 10 75 hrs ok
96 " "
20 " "

40

12 30

1 1/0
12/0
340
170
20.

1000

1/12

8

2 1/2

4

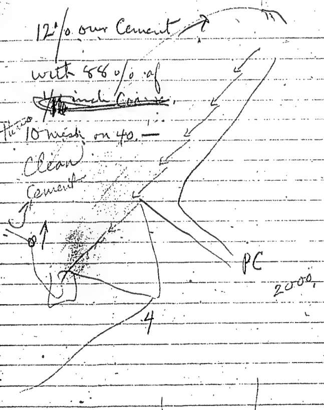
12% our Cement

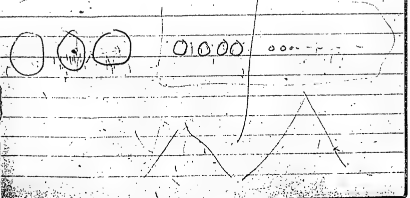
with 88% of

~~1/4 inch Coarse~~,

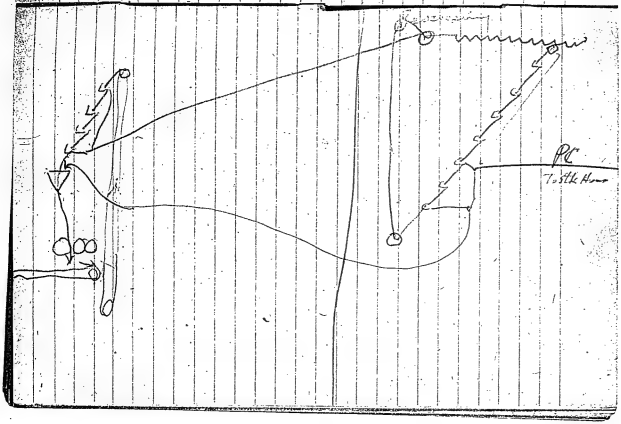
Three 10 mesh on 40. —

Clean Cement





PC


PC
To Silk House

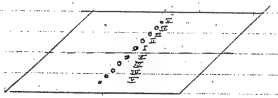
Notebook, N-99-10-00

N-(99-10-00)

Results of
Cement-experiments. (903)

I

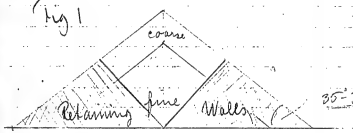
In a table of 48" Diameter for a cone of 44" there are cut holes 4" apart so that when running out the cone all holes run empty at the same time



Diameter of holes	I	3/4"
" "	II	11/16"
	III	19/32"
	IV	5/8"
	V	9/16"

II

Fig. 1



Material for the experiments.

coarse: on 23/1000 screen
and through 9/1000 "

fine on 9/1000 screen
through 23/1000 "

The samples are separated on 23/1000 Hand screen.

The amount of stuff run out through the mentioned 10 holes represents ca 26 % of the hole cone.

#39.4

The cavity formed by running out the bags filled my with 64 lbs and number 5 128 lbs coarse.

See Fig 1

15 second samples taken

	in lbs			in percent		
	fine	coarse	total	fine	coarse	difference
1	14.250	7.250	21.500	66.35	33.65	+32.70
2	6.750	13.500	20.250	33.35	66.65	-33.30
3	7.000	13.000	20.000	35.00	65.00	-30.00
4	10.312	10.000	20.312	50.85	49.15	+1.70
5	13.250	8.750	22.000	60.35	39.65	+20.70
Balance	13.312	6.563	19.875	67.00	33.00	+34.00
Total	64.874	59.063	123.937			151.70

Average difference in percent

$\frac{151.70}{6} = 25.3\%$

#395.

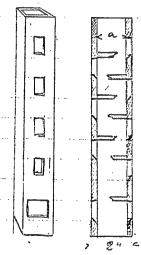
#391. Deducted.
65 lbs coarse
65 lbs fine
on indication above

	in lbs			in percent		
	fine	coarse	total	fine	coarse	difference
1	4.250	13.435	17.685	24.10	75.90	51.80
2	9.813	9.125	18.93	51.80	48.20	3.60
3	17.250	5.062	22.312	77.35	22.65	54.70
4	13.150	7.250	20.400	64.50	35.50	29.00
5	8.312	13.781	19.093	43.60	56.40	12.80
Balance	10.187	21.125	31.312	32.58	67.42	34.84
total	62.962	66.778	129.740			186.74

Average difference in percent

$$\frac{186.74}{6} = 31.12\%$$

#385.



The inner diameter
of the pipe
is twice the diameter
of the

378

Wednesday, 1 #385

60 lb. fine on bottom

60 " Anna " Alsop

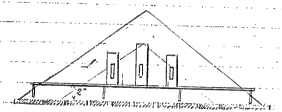
#393 reprinted
60 lbs coarse under
1.C. fine over

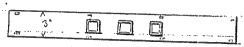
	in lbs				in %		
	fine	coarse	total		fine	coarse	difference
1	15.187	7.500	20.187		63.80	36.20	27.60
2	14.625	7.063	21.688		67.60	32.40	37.20
3	10.625	10.500	21.125		50.30	49.70	0.80
4	7.435	12.250	19.675		37.80	62.20	24.40
5	5.687	10.812	16.499		34.50	65.50	31.00
Balance	7.250	8.562	15.812		45.80	54.20	8.40
total	58.809	56.687	115.496				129.40

Average difference

$$\frac{129.4}{6} = 21.57\%$$

#417.





A platform 3" broad running over the holes 2" over the holes. 3 posts in the middle

Bottomholes as description I

420

Arrangement # 417

64 lbs fine below

8 # coarse above

	~ lbs			~ percent		
	fine	coarse	total	fine	coarse	difference
1 (Start)	11.500	9.845	21.343	54.00 %	46.00 %	8.00 %
2	9.187	11.563	20.750	43.75	55.25	6.50
3	10.031	10.687	20.718	48.40	51.60	3.20
4	8.710	12.406	21.116	41.20	58.80	17.60
5	9.593	9.937	19.530	49.20	50.80	1.60
Balance	11.575	8.436	20.311	57.20	41.80	15.40
	60.896	62.872	123.768			53.50

Average difference

$\frac{53.5}{6} = 8.91\ \%$

425

Pipes described in # 395 changed as follows

Baffles in four middle pipes closing 3/4 of the opening

Two wide holes on four middle pipes

Holes on one side only.

#1984

Number in 1 to 5 lbs. fine 48.40 coarse 57.60 difference 9.20

Number in 6 to 10 lbs. fine 33.50 coarse 66.50 difference 33.00

	in lbs.			in percent		
	fine	coarse	total	fine	coarse	difference
1 (15 sec)	10.000	10.625	20.625	48.40	51.60	3.20
2	6.250	12.406	18.656	33.50	66.50	33.00
3	9.063	11.187	20.250	44.80	55.20	10.40
4	9.625	10.562	20.187	47.80	52.20	4.40
5	11.406	8.593	19.999	57.20	42.80	14.40
Balance	16.187	10.063	26.250	61.70	38.30	23.40
Total	62.531	63.436	125.967			78.80

Average difference =

$$\frac{78.8}{6} = 13.13$$

#427. Pinion bran #495.
5) 32 lb fine 5) 32 lb coarse
9.32 - fine, 9.32 - coarse

		fine	coarse	total	fine	coarse	difference
(1 sec)	1	9.906	10.250	20.156	49.20	50.80	1.60.
	2	8.531	11.094	19.625	43.85	56.15	12.30
	3	9.600	11.406	20.806	44.20	55.80	11.60
	4	10.532	10.218	20.750	50.80	49.20	1.60
	5	11.593	9.281	20.874	55.50	44.50	11.00
Balance		11.250	8.250	19.500	57.70	42.30	15.30
Total		60.812	60.499	121.311			54.20

Average difference

$\frac{54.20}{6} = 9.03$

#447.

Pipes exit down to take stuff from the top during the two first runs.

Large holes on both sides of 4 middle pipes

Holes no 2 from bottom on the two middle pipes : $1\frac{1}{2} \times \frac{1}{8}$"

444

	Outside 6 holes			Inside 4 holes		
	fine	coarse	total	fine	coarse	total
1	2.187	4.063	6.250	10.125	3.938	14.063
2	2.125	4.875	7.000	10.875	3.812	14.687
3	0.750	4.937	5.687	7.750	6.250	14.000
4	1.000	4.812	5.812	6.906	7.000	13.906
5	1.937	3.906	4.843	7.969	5.625	13.594
Balance	4.218	4.969	9.187	12.031	6.750	18.781
Total	12.217	27.562	49.779	55.656	33.375	89.031

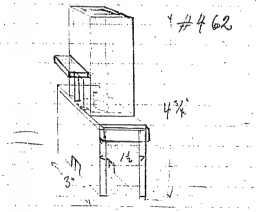
444

Prism # 444
65 lbs fine below
65 lbs coarse above

	in lbs			in percent		
	fine	coarse	total	fine	coarse	total
1	12.312	8.000	20.312	61.00	39.00	22.9
2	13.000	8.687	21.687	60.00	40.00	20.0
3	8.500	11.187	19.687	43.20	56.80	13.6
4	7.906	11.812	19.718	40.00	60.00	20.0
5	9.906	9.531	19.437	50.90	49.10	18
Balance	16.249	11.719	27.968	58.30	41.70	16.6
total	67.873	60.937	128.810			94.0

Average difference

$\frac{94}{6} = \underline{15.7\ \%}$



Four pegs for the four middle holes

Battenholes as described in #I.

#462

	Outside 6 holes			Inside 4 holes		
	fine	coarse	total	fine	coarse	total
1 (15 sec)	2.875	5.000	7.875	6.156	6.125	12.281
2	1.094	6.094	7.188	7.562	3.375	10.937
3	0.843	5.466	6.309	6.937	1.843	8.780
4	0.718	5.032	5.750	4.718	4.250	8.968
5	1.656	4.250	5.906	4.375	4.213	8.588
6	2.562	3.312	5.874	4.250	3.187	7.437
7	1.435	0.937	2.372	4.812	1.593	6.405
Balance	0.781	1.187	1.968	10.969	3.812	14.781
Total	11.964	31.278	43.242	49.779	28.403	78.182

#462 Analysis of Gravel #462
60 lbs fine
60 " Coarse
adding

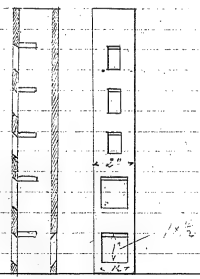
	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1 (15 sec)	9.031	11.125	20.156	44.92	55.1	10.2
2	8.656	9.469	18.125	46.6	53.4	6.8
3	7.780	7.309	15.089	57.6	48.4	2.2
4	5.436	9.282	14.718	36.9	63.1	26.2
5	6.031	8.468	14.499	41.7	58.3	16.6
6	6.812	6.499	13.311	51.2	48.4	2.4
7	6.247	2.530	8.777	71.2	28.8	42.4
Balance	11.750	4.999	16.749	70.0	30.0	40.0
Total	61.743	59.681	121.424			147.8

Average difference

$$\frac{147}{8} = 18.37\ \%$$

#468

Pipes #385 changed as follows.
2 lower holes on front and one
hole upward the lower front hole.
on backside
Baffles closing half inner
opening



#698

	Outside 6 holes.			Inside 4 holes		
	fine	coarse	Total	fine	coarse	Total
1 (Base)	4.063	5.063	9.126	4.094	5.531	9.625
2	1.312	5.125	6.437	6.562	6.656	13.218
3	0.875	5.625	6.500	10.500	4.969	15.469
4	2.469	4.152	6.625	10.500	4.312	14.812
5	3.063	3.719	6.782	11.000	4.656	15.656
Balance	6.375	6.125	12.500	4.219	1.156	5.374
Total	18.157	29.813	47.970	46.874	27.280	74.154

#698

6 lbs fine, 4 lbs coarse in 100

	in lbs.			in %		
	fine	coarse	Total	fine	coarse	difference
1	8.157	10.594	18.751	43.5 %	56.5 %	13.0 %
2	7.874	11.781	19.655	40.0	60.0	20.0
3	11.375	10.594	21.969	51.9	48.1	3.8
4	12.969	8.468	21.437	60.5	39.5	21.0
5	14.063	8.375	22.438	62.7	37.3	25.4
Balance	10.593	7.281	17.874	59.3	40.7	18.6
Total	65.031	57.093	122.124			101.8

Average difference

$$\frac{101.8}{6} = 16.97\ \%$$

569.

Cone of 44" Diameter
The angle of the sides 36°
Height of Cone 16"
Volume of cone 11120 ft°
Weight of Cone 6 10 lbs.

The middle of cone run out through 12. 4. 6, 8 & 10 5/16 holes 4" apart symetrical to centre.

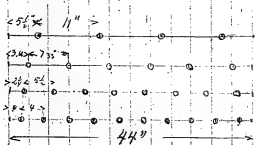
Grain – Oats

	Amount of chaff run out	Amount of chaff run out in % of bale came
2 bales	105 lbs	15 %
4 "	128 "	21.1 %
6 "	139 "	22.8 %
8 "	146 "	23.95 %
10 "	149 "	24.55 %

Amount run out through 2 bales is 74 % of the amount - - - 10 bales.

Exp. 576 - 578

	Amount of stuff min exit	Amount of min exit min Bit in percent of hole cone
4 holes	119.5 lbs	19.5 %
6 "	129.5 "	21.25 %
8 "	137.0 "	22.45 %
10 "	149 "	24.85 %



* 575

Same cone as # 569

Hurtle run acid through

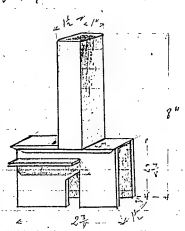
4 holes 11" apart

6 " 7.35" "

8 " 5.5" "

10 " 4.4" "

#579



Pipes over two 5/16 holes 2" from centre

In following experiments the samples are taken out by weight each ca 10 lbs

#585
Bag #579
50 lbs fine under
50 " coarse above

	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	3.625	6.469	10.094	35.8 %	64.2 %	-28.4 %
2	3.986	6.218	10.154	38.7	61.3	-22.6
3	5.281	5.031	10.312	57.2	48.8	+2.4
4	5.094	4.937	10.031	50.7	49.3	+1.4
5	5.469	4.781	10.250	53.3	46.7	+6.6
6	5.344	4.687	10.031	53.2	46.9	+6.2
7	5.812	4.250	10.062	57.7	42.3	+15.4
8	5.675	4.312	9.987	56.9	43.1	+13.8
9	5.812	4.469	10.281	58.1	41.9	+16.2
10	4.375	5.718	9.093	37.1	62.9	-25.8
total						138.8

Average difference : $\frac{138.8}{10} = 13.88\%$

	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	7.187	2.500	9.687	74.3 %	25.7 %	- 48.6 %
2	4.287	5.712	9.999	42.8	57.2	+ 14.4
3	6.875	3.406	10.281	66.9	33.1	- 33.8
4	5.063	5.187	10.250	49.4	50.6	+ 1.2
5	4.583	5.500	10.063	45.3	54.7	+ 9.4
6	4.094	5.875	9.969	41.0	59.0	+ 18.0
7	4.343	5.625	9.968	43.5	56.5	+ 13.0
8	4.031	6.157	10.188	39.6	60.4	+ 20.8
9	4.033	5.687	9.750	41.7	58.3	+ 16.6
10						
total	44.500	45.655	90.155			175.8

Average difference $\frac{175.8}{9} = 19.5$ %

#572
4.595 lbs. coarse material
50 lbs. fine material
55

125

Mino # 57. Bottles removed
Distilled and Pipes removed from the
for the left
50 lbs corn
50 lbs - lime.

	in lbs			in %		
1	lime	corn	total	lime	corn	difference
1	6.031	3.937	9.968	60.4 %	39.6 %	20.8 %
2	4.906	5.031	9.937	49.4	50.6	1.2
3	6.687	3.437	10.124	66.0	34.0	32.0
4	5.250	4.938	10.188	51.6	48.4	3.2
5	5.000	5.000	10.000	50.0	50.0	0.0
6	5.125	4.937	10.062	50.9	49.1	1.8
7.	4.812	5.375	10.187	47.1	52.9	5.8
8	3.906	6.156	10.062	38.7	61.3	22.6
9	3.593	6.312	9.905	36.2	63.8	27.6
10	4.313	5.906	10.219	42.2	57.8	15.6
total	49.623	49.128	98.651			130.6

Average difference = 13.06 %.

#696

#6.25 received

50 lbs fine made

50 - coarse about

	in lbs			in %		
	fine	coarse	total	fine	coarse	diff.
1	5.125	5.063	10.188	50.4	49.6	0.8
2	4.188	5.750	9.938	42.1	57.9	15.8
3	5.063	5.031	10.094	50.2	49.8	0.4
4	4.406	5.594	10.000	44.1	55.9	11.8
5	4.343	5.750	10.093	42.9	57.1	14.2
6	4.594	5.468	10.062	45.7	54.3	8.6
7	5.250	4.906	10.156	51.8	48.2	3.6
8	5.531	4.594	10.125	54.6	45.4	9.2
9	5.750	4.468	10.218	56.3	43.7	12.6
10	5.687	4.344	10.031	57.6	43.9	13.2
total	49.937	50.968	100.905			90.2

Average difference 9.02 %

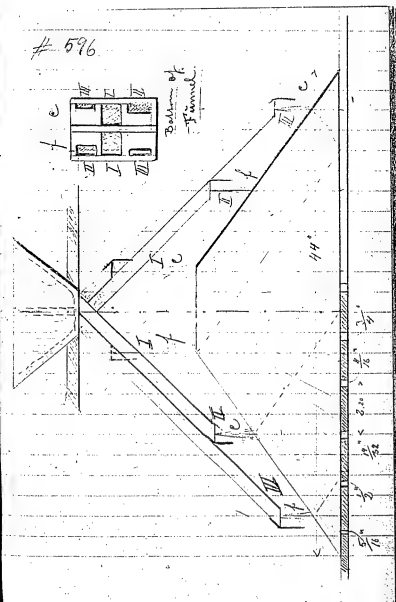
#596

The coarse and fine stuff is filled into separate funnels and runs through chutes to 6 points, lying in one diameter of the cone 2.20" apart here building coarse and fine piles vice versa.

The feed of each chute is by means of different sizes of holes regulated so that all chutes together fill up the cavity of a cone of 44" Dia.

The samples are taken through the holes described in # I

#596



597

Cane - bucket through screen from # 596

70 lbs fine mix

70 lbs coarse above

	in lbs.			in %		
	fine	coarse	total	fine	coarse	difference
1	8.125	2.063	10.188	80.0%	20.0%	+60.0%
2	5.750	4.157	9.907	58.0	42.0	+16.0
3	4.000	6.125	10.125	39.5	60.5	-21.0
4	3.437	6.437	9.874	34.9	65.1	-30.2
5	3.437	6.625	10.062	34.0	66.0	-32.0
6	3.376	7.687	11.063	30.5	69.5	-39.0
7	4.031	6.125	10.156	39.7	60.3	-20.6
8	4.313	5.687	10.000	43.1	56.9	-13.8
9	4.782	5.343	10.125	47.3	52.7	-5.4
10	5.250	4.782	10.032	52.3	47.7	+4.6
11	5.625	4.625	10.250	54.9	45.1	+9.8
12	6.125	4.375	10.500	58.4	41.6	+16.8
13	4.500	5.687	10.187	44.1	55.9	-11.8
14	4.343	5.875	10.218	42.5	57.5	-15.0
total	67.094	75.593	142.687			29.60

Average difference $\frac{29.6}{14} = 21.15\%$

#602

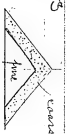
	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	7.438	2.531	9.969	75.0%	25.0%	50.%
2	5.906	4.469	10.375	57.0	43.0	14.0
3	7.000	6.094	13.094	53.5	46.5	7.0
4	5.156	7.187	12.343	41.6	58.3	16.6
5	4.943	5.625	9.968	43.6	56.4	12.8
6	3.982	5.688	9.624	40.9	59.1	18.2
7	4.750	5.782	10.532	45.1	54.9	9.8
8	4.688	5.156	9.844	47.6	52.4	4.8
9	4.625	5.375	10.000	46.3	53.7	7.4
10	5.583	4.750	10.318	53.8	46.2	7.6
11	5.500	4.375	9.875	55.6	44.4	11.2
12	5.219	4.343	9.562	54.5	45.5	9.0
13	3.938	5.750	9.688	40.5	59.5	19.0
14						
total	68.063	67.125	135.188			137.4

average difference $\frac{187}{13} = 14.4\%$

	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	8.500	1.750	10.250	82.8%	17.2%	65.6%
2	6.063	3.812	9.875	61.5	38.5	23.0
3	5.250	4.875	10.125	51.8	48.2	3.6
4	9.469	6.438	9.907	95.0	65.0	30.0
5	8.656	7.469	10.125	26.2	73.8	47.6
6	3.031	6.594	9.625	31.5	68.5	37.0
7	3.781	6.594	9.375	29.7	70.3	40.6
8	4.875	5.250	10.125	48.2	51.8	3.6
9	5.250	4.937	10.187	51.6	48.4	3.2
10	5.063	5.125	10.188	49.6	50.4	0.8
11	6.187	3.812	9.999	61.7	39.1	23.8
12	5.531	4.187	9.718	56.8	43.2	13.6
13	5.969	5.875	11.844	50.4	49.6	0.8
14	4.063	3.750	7.813	51.9	48.1	3.8
total	69.688	70.468	140.156			297.0

Average difference $= \frac{297}{14} = 21.2\%$

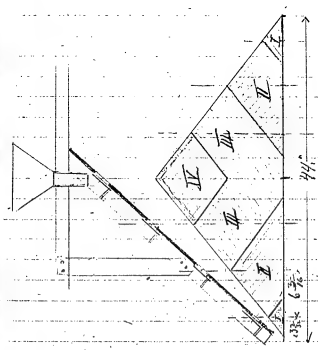
#605



70 lbs fine
70 " coarse

683.

Samples taken out through the [illegible] described in # I



#634

Arrangement #633

Cases I, II, III, IV 3 lbs coarse each

14 = fine

30 = coarse

42 = fine under 4 lbs coarse

	fine lbs	coarse lbs	total lbs	fine %	coarse %	diff. %
1	3.500	6.531	10.031	35.0	65.0	30.0
2	3.375	6.781	10.156	33.3	66.7	33.4
3	4.125	6.031	10.156	40.6	59.4	18.8
4	4.875	5.000	9.875	49.4	50.6	1.2
5	5.469	4.531	10.000	54.7	45.3	9.4
6	5.969	3.875	10.844	64.3	35.7	28.6
7	5.563	4.437	10.000	55.6	44.4	11.2
8	4.437	5.687	10.124	43.9	56.1	12.2
9	4.375	5.563	9.938	45.0	55.0	10.0
10	3.937	6.000	9.937	39.6	60.4	20.8
11	4.937	5.125	10.062	49.0	51.0	2.0
12	4.250	5.750	10.000	42.5	57.5	15.0
13	4.813	5.156	9.969	48.2	51.8	3.6
14	5.031	4.875	9.906	50.7	49.3	1.4
Total	64.656	75.339	139.995			197.6

Average difference : $\frac{197.6}{14} = 14.1\%$

#6.95

#6.34 represent
Course I 3 lbs fine each
II 14 " coarse "
III 30 " fine "
IV 42 " coarse and 8 lbs fine above

	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	6.343	3.563	9.906	63.9	36.1	27.8
2	5.437	4.563	10.000	54.4	45.6	8.8
3	4.563	5.312	9.875	46.2	53.8	7.6
4	4.813	4.937	9.750	49.4	50.6	1.2
5	4.875	5.094	9.969	48.9	51.1	2.2
6	4.750	5.218	9.968	47.6	52.4	4.8
7	4.531	5.406	9.937	45.6	54.4	8.8
8	4.781	5.250	10.031	47.7	52.3	4.6
9	4.750	5.250	10.000	47.5	52.5	5.0
10	5.063	4.906	9.969	50.8	49.3	1.4
11	5.437	4.343	10.280	52.8	47.2	5.6
12	5.250	4.906	10.156	51.7	48.3	3.4
13	4.250	5.688	9.906	42.9	57.1	14.2
14	5.063	4.937	10.000	51.0	49.0	2.0
	69.906	69.841	139.747			97.4

Average difference = $\frac{97.4}{14}$ = 6.95

636

Notebook, N-02-05-24.1

Order ——

~~6 pairs~~ 1 gear from roller feeds on magnets at Mine.
Order # 66
9/27/02

2 dz. thumb tacks
1 pair bow pants
1 bow pencil

Stock lists from N.Y. Iron Dealers
Bement & Co.

For building Kiln —
6500 Standard Fire Brick 9 x 4½ x 2½
110 bbl Vulcanite Portland Cement
30 yds Sand
73 yds broken stone bulk &c
4 bbls Fire Clay.
Cost $75

For top of Kiln: 38 pcs 22 ft long
~~[illegible]~~ 3/4" Round Iron Rod ~~[illegible]~~
~~[illegible]~~ 50 pcs 17 ft long
300-1" nuts and bolt ends.
see P. 3 for end plates.

From N. J. & Pa. Con. Works.

2 - 1 7/16 Rigid pillow blocks for idler of hauling mechanism

2 - 2 7/16 Rigid pillow blocks for head pulley of range

2 - 1 7/16" take ups for tail sheave

300' 3/4" Wire Rope

~~1 Spur gear Pinion P.10 3rd item 120 teeth for hoist shaft~~

~~1 Pinion P.10 4th item 15 teeth for crank shaft of hauling mechanism~~

---

1 - 3 rope sheave for 3/4" Wire Rope 20" Diam - 2 7/16 bore - Keyseat 1/2 X 1/4" tapering 1/8" to the foot. Length of hub 6"

1 - 3 rope sheave for 3/4" wire Rope 20" Diam 1 7/16" bore 2 1/2" S.S. Length hub. 6"

From N. J. & Pa. Con. Wks.

4 - Rope sheaves - 4th item P.5 7/4 Diam - for lifting ~~pinion~~ Kiln Doors.

1 - Rope sheave - 5th item P.6 - 1 8/8" diam for tail sheave of hauling mechanism

2 - 1 7/16" Rigid pillow blocks for crank shaft of hauling mechanism ordered 1 7/16" from Nine

---

8 plates 3/16" X 24" X 96" for side plates for Kiln cover.

or 200 ft. 3/16" X 7" girder plates.

Lumber for cement top of Kiln

Continued on P. 8

N. J. & Pa. Con. Wks.
1 spur gear - P.12 - 14th diam. 12 teeth
1 " " P.12 - 15th " 76 "
for driving reciprocating conveyor.

Gleason Tool Co. Rochester
1 spur gear 1" pitch - 48" to 52" diam. - 12 to 2 1/2" face
2 7/16 bore - 1/2 X 1/4 key seat
[illegible] SC
1 pinion to match gear - 10 to 12 teeth - 1 7/16" bore - 2 - 3/8 SS
Cast Gears for traveling mechanism

---

4 pcs. 2" X 1 1/2" Angle 3/16" thick for rail spreaders in cement floor.
8 S - 5/8" X 1 1/4" bolts
8 S - 5/8 heavy wrought Iron washers
[illegible] 68

Fogment & Co.
200 ft 2" X 3/16" Angle
5 sheets #14 sheet iron 26" X 96"
[illegible]

Notebooks by Experimenters Other Than Edison
Group 4: Cement House

The thirty-four notebooks in this group cover the period July 1908-November 1910; one book has unrelated entries from 1937 regarding the dictation phonograph, or "Ediphone," business. The authors of the books are unidentified. Among the draftsmen who may have composed the books are J. Birkhahn, J. C. Hemphill, and H. B. Levinson. The experimenters involved in the cement house project include George E. Small and Henry J. Harms, Jr., mechanical engineers hired by Edison specifically for the project, and Robert A. Bachman, master machinist at the laboratory.

The one selected notebook, N-08-07-08, contains notes, probably by Harms or Small, regarding experiments on the pouring and stabilization of the concrete. The other books contain routine lists of patterns made for the numerous molds to be used in the production of poured concrete houses.

N-Number	Label on Spine or Front Cover

[additional information supplied by the editors appears in brackets]

Selected Books

08-07-08	"Notes on Tests Edison Concrete House 7/15/08"

Books Not Selected

08-00-00.4	"E.C.H. #1 18" Plates"
08-00-00.5	"24" Plates E.C.H. #1"
08-00-00.6	"Base Plates Stair Plates Special Plates E.C.H. #1"
08-07-15.1	"Pattern Numbers ..1-160"
08-07-15.2	---
08-07-15.3	"Wall plates Numerical order E.C.H. #1"
08-07-15.4	"Drawing Numbers E.C.H. #2"
08-07-15.5	"Y & W Sketches Jigs - Num. order"
08-08-10	"Pattern Numbers E.C.H. #2
08-09-03	"Mr. George Eldridge Small Record of Plates"
08-09-11	"No 2 House Patterns Sent to Fdy. & When Returned 1910"

08-10-07	"Plaster work Pattern numbers #2"
08-11-24.3	"X sketches Numerical order #2"
09-00-00.5	"List of Straight Plates #2"
09-00-00.6	"Wall Plates A–N Numerical Order E.C.H. #2"
09-00-00.7	"Wall plates O–Z E.C.H. #2 #2"
09-00-00.8	"12"–15" Plates E.C.H. #2"
09-00-00.9	"16"–24" Plates E.C.H. #2"
09-00-00.10	"18" Plates E.C.H. #2"
09-00-00.11	"Ceilings and Floors E.C.H. #2"
09-00-00.12	"Keys — Corners 4" and 6" plates"
09-00-00.13	"Stair plates #2 St"
09-00-00.14	"[Por]ch – , Floors, Roof, etc. Numerical order E.H. #2"
09-00-00.15	"Base plates. Specials #2
09-00-00.16	"Ornamental plates #2"
09-03-24.2	"Changes and Additions E.C.H. II #2"
09-05-25	"Castings"
09-06-01.2	"Castings #2"
09-06-02.1	"Pattern Numbers E.C.H. #2"; "void"
09-06-02.2	"Plaster Patterns #2"
09-08-20	"Pattern #2 Aug 20 1908"
10-00-00.3	"1910. Pattern. #. –A"
10-02-00	"1910 Drawings #. –B"

Notebook, N-08-07-08

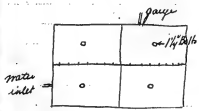
George E. Small H. H. Mann

Reports on tests

Edison Concrete House

Diary in back of book

#1 Pressure test for plates - July 8.



Plates bolted together with large number of bolts (1¼") sides closed with steel plates - at all joints 1/16" rubber packing

2 sides 1" apart.

Pressure (water) applied gradually and readings taken at center. The bolts (1¼") did not stretch at all.

lbs pressure	Diff. at each side
5	1/32
10	4/32
15	5/32
20	6/32
25	8/32
30	10/32
35	12/32

Second time pressure 40 lb - Some plates cracked near center {ribs only}

The ½" bolts were not fitted - and no dowelpins were used.

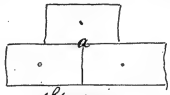
#2 Pressure test on July 11

Same plates, but rubber between plates taken out and oatmeal put on flanges. Dowelpins were put near ℄ of plates (at crossing - point)

Lbs pressure	Defl. each side	Final test mm
5	1/16	1/32
10	3/32	4/32
15	9/64	10/64
20	9/64	12/64
25	13/64	16/64
30	17/64	20/64
35	25/64	26/64

Since some of the plates had cracked ribs, test not absolutely correct. —

#3 Pressure test on July 15



No dowelpins
No rubber, but
oatmeal used.

Old plates used. —
Defl. measured at a

Pressure.	Defl.	Defl. First test
5	1/32	1/32
10	1/16	3/32
15	3/32	5/32
20	7/64	13/64
25	1/8	1/4
30	9/32	10/32
35	11/64	26/64
40	3/16	
45	Cracked	

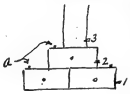
This test is not of ~~not~~ much value – Mixing was not thoroughly watched – poor tar stuff, clay no good

See pictures 1 – 2 and 3

Corners not filled. R.H. corner, pit 1 filled hole, because ~~made~~ tub one bowl of water pouring and mixed the concrete with a bowl.
Boards taken off after 6 hrs – Concrete fairly hard – smooth surface against plates
Plates taken away after 84 hrs – stone shows in some places, but surface generally O.K.
The concrete in the column mixed away before concrete had set – so does not show on pictures.

#4 Pressure test on July 21

Six plates as shown – Sides 1' apart
Sides closed with 2" planks
Column 8" x 8" inside – 40' high



Diaphragm gauges at points 1, 2, 3 & 4 (half height of column)

Concrete – 1 – 3 – 5 – regular clay
Gauge – 1 – practically no pressure
" 2 about 1 lb.
" 3 " 1 " when concrete reached in column – pumping up to 2½ lbs while pouring
" 4 – When concrete was above it, about 2 lbs – pumping to 3 lbs.

Concrete was hand mixed, properly not mixed well and not wet enough – flow not continuous – poured in by buckets full. Had small airholes at a – no tamping at all – Concrete stuck to column, when column half full, repeated blows with hammer made it come down some – gauge 3 at that time pumping to 10 lbs –
Plates did not deflect at all.

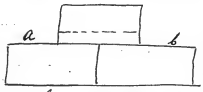
Materials
Stone 3/4" and under
Sand - Coarse and fine - and gravel
Used Aug 20 1903 1.03 .47 .89
for Wear 3.2 bags 11.3 cu ft 18.8 cu ft.
not enough material

No pictures taken - test no good - wrong
faulty materials

Corners not filled - abt 1" from top

#5 Test on July 30. -

Plates as before, but top open
Concrete machine mixed - Ransome #1
3 batches - very wet - mixed 3 min. each



Not filled in acc'l of insufficient material and loss out of mixer

At a board left off and put in place when filled - and after water flowed off.
At b 1 1/4" hole only with pipe - closed when filled

Plate and molds side removed after 24 hrs - Concrete not enough set
Rest removed after 48 hrs - surface fairly good - at top layer formed abt 4" - no stone at all - see blocks saved -
found out later that clay used was as good and actually contained abt 5% clay - stone too big a size

1 - 2½ - 5½

Box was painted and greased, but concrete stuck to it — see picture 14 showing how bottom stuck to mould.

Picture #5 - block broken on Aug 5 - 3 P.M. - Mixture 0K. - aggregate thoroughly mixed and voids well filled - stone close to surface - quantities correct

#6 Aug - 4

Block made 1 cu. ft. exact
Mixture for diagram Taylor & T
Sand 20 lbs
Stone ¼ & ⅛ lbs
1 - 2½ - 5½
Used Clay of bank - ground roughly
Mixed by hand
Clay was N. G. — about 5% sandy clay
Well sand & dirt
Used 3¾ A — little fit for T

Mixture running poor, bottom stuck - see picture #4 - box was painted & greased - surface not very good

#1. Test on Aug 7 - in Chemic room.
clay in ratio to cement — Quantities in oz.
Mixed about 54 cub inches at the time

#1 - 1 - 2½ - 5½ clay ⅕ water
8.5(+) - 17¾ - 46.5(-) - cl. 1¾ - water 18

#2 - 1-3-5 - 8.5 : 21 : 42 : 1¾ : 15

#3 1-3-5. — 8.5 : 21 : 42 : 2⅓ : 16
¼ clay - 1055

#4 - 1-4 no clay - 10 water
8¼ - 27.5

#5. 1-5. no clay - 8¼ - 33 (+) - 12¼

#6. 1-4 ⅒ clay 8¼ - 27.5 - 10

See blocks - marked with number in Room 31
Water added by judging appearance & flow.

Found out later, that for larger quantities water should be a little less.

Form removed of Col #1 - on Aug 17 - 8.30 A.M. - Surface O.K. - very few little cracks - bottom perfect - Some of the outside layers stuck to form - Some of the corners stuck to box and some part broke - probably on account of leakage through joint - exposed moist around column after spraying surface with water. -

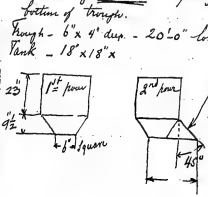
For strength test see page 12.

With the last pouring quite some water to cement was lost - making the concrete flow less easily

~~Flow~~ ~~Among~~ In pict. #6 - Opening ~~of trough~~ mixing box - 26' 3'-6" from bottom of trough.

Trough - 6" x 4" dep. - 20'-0" long

Tank - 18" x 18" x



Flow Test on Aug 10 - #8 and #9

1st Mixed 1 Col. fol - 1.3.5 - ¼

5.1 - 15.3 - 25.5 - 1.3 - 12.9 cu

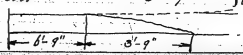
Pours - 8.30 A.M. - .172 - .516 .860 cu F

Mixed thoroughly - took less water than in Laboratory test, since it appeared wet and ~~flowy~~ flowed easily. Filled column, dimen 6" x 6" x 4'-0" (inside) pumping heavily while pouring with standard pumpstick (#1) after 26' 36 min at 1½" water settled out -

2nd Mixed 3 col. fol - same prop. - for comparison of test to pict. #6

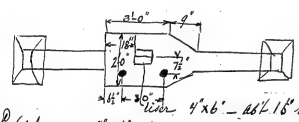
1st pour - grade of trough 3°. - flowed clear to the end - completely filling trough without pumping. Put concrete back in mixing box - mixed a little - cleaned tank & trough - placed trough level - poured again - concrete flowed well - but overflowed the sides - put concrete back again - covered trough on top and poured again - pumped in tank while pouring - first with pumpstick #1, then with old broom - the latter was more effective through of flow - total 10'-6" - stone carried clear to the end of the flow.

tapering end 3'-9"



On test #10. — Same as pict. #7 except used large tanks as per pict. #6 on lefthand side.

Changed lefthand side and to finish column as shown on pict. #7 between tests 10 & 11 —



End columns - 4"x6" -

In 2 holes - #160 gauze - hole 3" dia.

Top was clamped at 2 bottom - boards were old and dry and cracked while pouring, allowing some Concrete to flow out - this is clearly to be seen on pict. #8 -

Tests 10 & 11 All hand - mixed

#10 Flow test on Aug 13. — at 4 3 P.M.

For arrangement see picture #9

1st Mixed 2 cub. ft. in each box - 1-3-5-1855-3 used on left hand large molten tank (same as on picture #6) ; flow was perfect - 2 flows met at center and no trouble experienced in meeting. Pots not quite filled -

2nd Put Concrete back in boxes - added 1 cub foot of material to each side and added 3 qts Clay - mixture to each - This was done twice some water was lost and the mixture stood some more. Mixed thoroughly - added 10 Pails water gate simultaneously - flow O.K. - Everything completely filled and overflowing in 2 column. pumping in each end column - with standard pump pot #2. —

#11 Tops removed Aug 14 - 9. AM. good surface - very few little Nickles - under gauge perfect & piece best of all — especially near gauze — Concrete very good by appearance and fairly hard - Stone near surface & tops everywhere

Very little water settled out - at 5:30 all water was gone from tops of 3 columns and 2 holes with gauze. Very little cement particles had sifted through gauze.

Picture taken before and after removing tops. —

For col. # 1. See page 8.

Forms of Col 2 - 3 & 4 removed on Aug 19 at same hour as pouring
All surfaces O.K - very few air holes - about corners same remark as for col. # 1
Cut off 2 - pieces of each column - after marking off line with bold chisel and heavy hammer, made deep groove and after a few heavy blows, the column split pretty well exactly in the marked line
Squared up & bottom off to 6"x6" for test
Result of test see test # 15

Strength test on Aug 13. # 12

Column # 2 - formed 4.50 P.M
1 - 3 - 3 - 6
.216 . .648 .648 cu - 1055 - 3½
Mixed thoroughly by hand - placed fine - little water settled out.

Col. # 3 - formed 5h 15m P.M
1 - 3 - 4 - 6
.192 - .576 - .768 - 1055 - 3
Same remarks —
Some more water settling out

Col. # 4 - 1 - 4 - 4 - 6 a. formed 5h 30m P.M.
.169 .676 .676 1055 - 3
Same remarks.
little water settling out. -

All Columns same dimensions as # 1 —

All Columns placed out of the sun and top corner with tops & boards. —

#13 Aug 19

Tried Ransome mixture — left an absolute failure on account of mixture. Cannot get the right degree of thinness — all the best medicine lost out of the discharging opening — —

#14. Compression test Aug 18. —

Used hydraulic press - plunger 2¾" dia - made test piece as accurate as possible - grinding the surface on emery - disc of necessary.

	Age -	Cracks -	Crushed -	{ lbs per sq. inch }
1 -	8 days - in mould	132 sides of column	218 lb. sides bottom & top	Piece of column #1 - (bottom)
2 -	11 days - air	288	288	Block #2 - test #7
3 -	"	390	845	" #6 "
4 -	"	150	775	" #4 "
5 -	5 days	198	265	piece of R, of test 11 block #8

#1 - partially damaged or cracked, when test piece was cut from column. —

Press registers in tons –
To find press. per sq in $\frac{\text{gauge press} \times 2000}{\text{area of block}}$.

#15 Compressive Test Aug. 19

Used hydraulic press in storage battery plant. plunger 5" dia

	Age	Lbs per sq. inch Cracked	Lbs per sq. inch Crushed	
1	6 days in mould	194	334	piece of col #2
2	6 "	334	334	" " " #3
3	6 "	208	250	" " " #4
	Press in laboratory			
1	6	302	302	pc of col. #2
2	6	254	254	" 3
3	6	218	218	" 4

#16 Aug. 27
Laboratory Jun.

N.				
1.	6 + 11	206	255	Lot #1
2	6 + 8	330	357	#2
3	"	316	316	#3
4	"	204	248	#4
5	0 + 14	~~246~~	246	L4 of tail 11

17 Sept 1 4-5 P.M.

Used cube-hand-mixer. Very satisfactory except gals which had changed. Fair mix a little V — all 3"

Poured	6x6x6	cubes			all b — 3
1 —	1-3-3	.113	.339	.339	8½ 6¼
2	1-3-4	.1	.3	.4	7½ 6.25
3	1-2-3	.133	.266	.399	10 6.25
4	1-3-2	.129	.387	.258	9½ 6.25

Levelled top next morning — considerable H

Cured stand more A

16

#18 Expt. 3

Determined S_4 of different mixtures

Ø A.

3 3/4

#19 Tests on Sept 4th. — A - 3

Mixed 1-3-3 with cube for column and ornament #1 - cub. cont 12 24 Cub. in - made for 1300 Poured 2-5 P.M. Pounded 4.83 per .48 cub ft p. ft. - 9 @ 11 st.

Specimen turned dry - this was also tested in test #17 and lost 12 - Cl. #2 - This spec. mixture can stand more water. Stix was not made according directions. The ornamental side was ordered thus and was made

Poured 16 testcubes - as follows - {% of each}

#5	1-3-3	3.35	.339	.334	7	3.10 P.M	{hr dry}
#6	1-3-4	2.98	.3	.4	6½	3.35	
#7	1-2-3	3.96	.266	.399	8½	4.5	
#8	1-3-2	3.83	.387	.258	8	4.35	{hr dry}

all C - 3

Opened Col. column #1 on Sept 8 - on account of poorly constructed of mixed, top should kick a little the covering screws - a few corners & points broke - ornamental side had some shortcuts - other side smooth - mixture was too dry. 4 p. priet. #13

All cubes 6" x 6" x 6"

Press. per sq. inch = $\frac{87.4 \times P}{36}$ = 2.43 P.

P = Atm. pressure

#20 Sept. 8

Cubes of test 17
all 6"/4 + 0

121 117 ~~214~~ 133	~~144~~ 124	224 206 243 238	228	#1
224 182 170 ~~97~~	~~168~~ 112	238 218 182 182	205 188	#2
~~214~~ ~~158~~ ~~85~~ ~~158~~	~~154~~ 1	214 194 170 ~~158~~	~~184~~ 193	#3
~~308~~ ~~267~~ ~~243~~ ~~243~~	~~265~~	308 267 243 255	268	#4

#21 - Sept 10.

Tested Cubes #5. 6. 7 & 8 for Compression (of test #19)
All Stand. Cubes - hydr. press in Lab. used -
Age - 6 days. -

Cracked	Crushed	Average Cracked	Average Crushed	Remarks
158	243			
230	255			
~~255~~	255	208	251	Cube #5 - test #19
230	250			
~~144~~	194			
182	194	~~173~~	194	Cube #6 "
~~144~~	194	152		
122	194			
206	273			
~~273~~	273	~~244~~	275	Cube #7 "
243	280	235		
255	273			
~~146~~	146			
~~122~~	158	~~134~~	161	Cube #8 "
~~170~~	182	~~109~~		
~~97~~	158			

#28. 2 a a

Opened column (ornamental) #2 – Age 3 days – surface OK – very few little blisters – in some places inner stack to mould – { did not oil mould before covering } – as a whole, ornamental work came out good – See picture – Lincoln family hall – and corners good & sharp.
See picture No. 11 & 12
left hand column

The last cube of each, marked Q – not pumped

The first cube of each, marked A. not pumped

#22 September 11th

Mixed 1-3-3 with cubs mixed for column with ornament #2 column contained 612 cubins – mixed for 700.
Poured 2 P.M. pumped. flow fine.
3.6 Qs .261 S+St 5.7 Qs. 7½
8 – 8½

Poured 32 testcubes as follows (4 of each)
16 cubes – #5, 6, 7, 8 all 1-3-3 3.5
~~Ag pumped & mould~~ 3.3 Qs .339 Ss & St – 7½ Qs
#5 – b – 7½ – 2-30 P.M. – flow O.K.
#6 – c – 6½ – 2-45 " "
#7 – d – 6 3-05 " " – little too wet
#8 – e – 5 3-25 " " too wet
with #8 – stone was not carried to top as well – properly
On account of lack of clay – shrinkage excessive

16 – cubes – #9-10-11-12 all 1-3-2 3½
3.83 Qs – .387 .258 7/7 Qs
#12 – b – 8½ – 3-50 P.M. – very dry – flow not O.K.
#11 – c – 7 4-10 " dry flow better
#10 – d – 6½ 4-35 " – a. b. little wetter – flow OK
#9 – e – 5½ 4-55 " " "
Stone thoroughly well carried in all these.

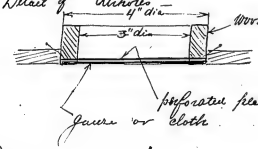
#28 Sept. 17

Pound Orn. Col. #3 - same as #2, but without pumping - mixed oil

Opened Sept 17 - 10th A.M. - All relief blends but fine - a few blebs in relief and sides - but in general very satisfactory - smooth surface -

3f. See picture # 11 & 12 left hand column

Detail of Nicholes –



Perforated plate # 1
holes – 1/8" dia – 3/16" ⊥ thus

Perforated plate # 2
1/16" Sheet-iron
holes – 1/2" dia – spaced 1/2" thus

See fig. # 14 for general arrangement
and fig # 16 – showing screen & blades

24 September 15th

Mixed 1-3-3 with Ransome mixer
for flow test. 6 - cc
Poured at 11.30 A.M. [redacted] - 6 - 3h
Mixture 1.3 - 3.9 - 3.9 21 7½
Mixer works O.K. – dumps quick, spills
only very little and mixes thoroughly
Flow perfect – stone well distributed
Arrangement of box, etc same as
for test #11 – except for central part. The arm
of this was provided with 9 holes with gauze
and no riser. See picture # 9 & 10
Nos #1 – #100 gauze – perf. plate #2 B
" #2 – triple muslin " A
" #3 – triple cheese-cloth " A
#4 – single " " B
5 – #40 gauze " B
6 – #120 " " B
7 – double cheese-cloth " B
8 – " " – perf. plate #1 A
9 – #80 gauze – perf. plate #2 B
All marked O.K. – the 3 marked A did not
let any cement through at all – Opened box
at 2 P.M. – surface fairly well – quite some
nicholes – riser seems to be necessary – stone
everywhere present –

#25 Sept - 17

Tested bricks of test 22 - mix hydr. press in Lab.

Age - 6 days

Brick	Cracked	Crushed	Average Cracked	Average Crushed	Brick	Cracked	Crushed	Average Cracked	Average Crushed
5	172½	189			9	~~167~~	262		
5	158	170			9	255	255		
5	170	182	172	185	9	~~262~~	262	~~266~~	268
5a	188	199			9a	284	292		
6	164	182			10	~~255~~	255		
6	154½	182			10	201	248		
6	170	182	159	182	10	230	255	~~235~~ 229	259½
6a	158	182			10a	255	280		
7	121	145½			11	187	236		
7	145½	158			11	212	238		
7	152	152	150	163	11	238	250	218	245
7a	182	194			11a	236	255		
8	194	206			12	206	243		
8	189	206	~~196~~	206	12	~~267~~	267	~~231~~	253
8	194	206	159		12	~~246~~	246	206	
8a	~~206~~	206			12a	206	255		

26 Sept 18. –

Poured ovn. Col. #4 – 1-3-2 C – 3½
2.96 .1 .3 .2 5½ 5-7
Flow delight – could stand some more
water time 2-50 P.M

Poured 16 testerbs –
all 1 – 3 – 4 – [redacted] 3

#1 – B – 7½ – 3-15 P.M – flow Otb

2 – G – 6½ – 3-35 " "

3 – D – 5¾ – 3-55 " "

4 – C – 5 – 4-05 " "

Spoiled first one of each in A – not pumped.

Levelled off tops on Sat. A.M. 9 o'cl – Sept. 19

Opened Col. #4 Sept. 21 – 9. A.M. – about half of the relief mch. stuck to mould – smooth side head pad surface – moulds had been oiled slightly before pouring. pict. #13

#27 Sept. 21 A.M.

Made flowtest at 2-30. Had the top of Centre box changed — no gauge, but used 4" x 4" in center. Had reinforcement placed as shown on sketch #. Used Portlands.

1-3-3-[redacted] 3½ 1.51 . 4.53 . 4.53 . 5½ 9

Made 7 Ce[redacted] — Had some water on account of small hole in mixer. Flow O.K. — reinforcement did not seem to hinder much — opened top at 3-35 and molded concrete to save time — — Some few pockets were in top and some water — might have to use a few holes with gauge to take care of water.

Poured cyl. col. #5 — Same as #5 & 4. 3½

1-3-2-[redacted] 2.98 .3 .2 5½ 6[redacted]

Flow OK —

Opened column Sept 24 — A.M. —

Surfaces all very good — relief work nearly perfect — only in a very few places little corners stuck to mould —

Pict #13

the picture #15

*28 Sept - 23.

Made flowtest at 2.30. - Had reinforcement - time to test 27 - and had riser and 4 pours - holes {see sketch}

1 - 3 - 3	6	- 3½	1.51	4.55	4.55 7½

Made 7 cub. feet. - Flow OK - but had considerable in account of loose brad in bottom of one of pouring - risers. - After pouring ~~[illegible]~~ stopped concrete in with riser. Flow was fine - and not pumped at all - Water came through pours and concrete came up ~~through~~ in riser.

Opened Sat 24 - A.M. - Surface OK - few airholes -

#29 Sept - 24

Tested tubes of test 26 - Age 6 days

Box			Average		Remarks	Pounds	Pounds	Map
1	206	243						
1	238	262						
1	~~160~~	300	~~246½~~	261		486	426	6+39
1a	~~208~~	238	222			559	547	6+36
2	190	214					~~[illegible]~~	6+36
2	190	214				595	~~[illegible]~~	6+36
2	~~166~~	206	~~148~~	210				
2a	~~166~~	206	190			432	~~[illegible]~~	6+36
3	138	250						
3	230	262						
3	268	280	~~246½~~	260½				
3a	230	258	243					
4	~~73~~	~~144~~						
4	226	238	~~156~~	~~262~~				
4	226	226	223	231				
4a	218	230						

Remarks: Per of Column #1; " #2; " #3; " #4

*30 Sept. 25

Poured waterable #1
1 - 3 - 2 - l [redacted] - 3%
2.98 .3 .2 5%

Flow perfect - little pumping done -

Opened Sept 28 - Surface not perfectly smooth but absolutely no holes -
Draw 0.46.

picture # 13

Opened Oct. 5 - 9 A.M

pouring end - -	Surface good.	Saturated
1	good	
2	medium	Sulph. hydr.
3	good	line
4	good	polished
5	~~the~~ good	Sulph. Amm.
6	No "	Sulph. pot.
7	"	Yellow
8	"	Graphite
9	rotten	Albany grease
10	"	Kerosene "
11	"	Machine oil
12	medium	Vaseline
tell end	good	

The smooth outside film of the surface seems to adhere to the copper and make the concrete looks granulated. This granulation the finest, i.e. least visible, where marked good. Those places also least disfigured with nickles - only very small ones, hardly noticable.

Unit $19

#31 Sept. 29th 3 PM.

Poured watertable #2
1 - 3 - 3 [redacted] 3½ 700 #s of mix.
2.6 .261 .261 7½ [redacted]
The flow was O.K.
Used same box as #1 but had surface of copper treated as follows.

	12	11	10	9	8	7	6	5	4	3	2	1	

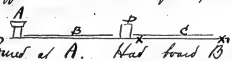
#1 Natural rubbed with clean waste.
#2 Sulphurated hydrogen not rubbed.
#3 White wash wiped slightly " " (as far as possible)
#4 Polished highly - vaseline applied then cleaned off
#5 Sulphite of Amm. rubbed.
#6 " " Pot " "
#7 Tallow " as possible down as much
#8 Graphite (dry) polished " " " "
#9 Albany grease " " " "
#10 Kerosene oil " " " "
#11 Machine " " " "
#12 Vaseline " " " "
The sides of the box were oiled well.
A film was left on surface at #4 + #2 in small sections - this clay was used as dams when applying sulph. hyd.

Oct. 6 –

Form moved off – stuck a little first, had by hammering with a monkey-wrench on the back – got it loose – Had moved stand on, to Concrete now at bottom surface perfect – all toolmarks (from planing tool) in surface – and perfectly smooth – pict # 13

#32 Sept 30. –

Poured in channel – Beam #1 tapered dies planed – ends closed – top open placed boards on top and kept on by standing on them while pouring – took boards off about 1½ hrs after pouring –



Poured at A. Had board B on alone, till Concrete spread – put on board C – Butting against B, till Concrete had filled beam. Placed rise D between boards – Concrete rose in D – pumped a little in A after pouring – Surface dry not where boards were removed – worst at B – end of beam (Corners) furthest from rise the test (marks X) –

1 – 3 – 3 – [redacted] 3½ – [redacted] 300 CC

2.98 .3 7½ 6.5 11-18 P.M.

Beam – 7'-6" – deep 1½" – wide (ins) 5⅞" at top

Levelled top of Bed of form – After long cutting with [redacted] the trowel, water marked out and rose able to make a perfectly smooth surface

#38 Oct. 3

Poured Cornice #1 – 2400 on 1-3-3-6 3½
.8 .9 .9 7½ .19 9-45 AM NP
F perfect – Could have been a little less A –
H quite some.

Poured Pd 9 – Ornamental work – mostly all OK –
except at bottom – this caused on account of
too much a space between blocks – surface
at big flat space N.G. – other surfaces
perfect – without any holes. — fil. #20
See fil #22 – the mould for the cornice –
showing the reverse dentals, which broke off
in cornice #1. –

Opened beam Oct 12 – Surface rotten all stuck to beam surface and very hard to get moved off concrete – most probably EC₃ – No difference between ends of beam

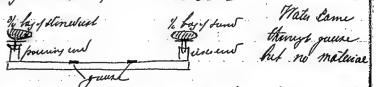
Opened molecable – not very good – less H than before – but still some – between pauses moist – smoothness of surface filmy stuck to copper at both ends – Trial #19

#34 Oct 6

3-25 P.M.

Poured beam #2 – Had one half of channel painted with a very thin lime-wash. Had boards, same as for test 32, but clamped on. –
1-3-3-[redacted]-3½ 800 cu 2.98 .3 – 5 – 6.5

Poured molecable #3 4 P.M.
1-3-3-[redacted]-3½ 800 cu 2.98 – .3 – 7½ – 6.5
Cleaned surface thoroughly with Potash 33% – then with sand & water. Use with benzole. Gave half of surface coat of whitewash – extremely thin – just noticeable – Had 2 holes made with #40 gauze and, after pouring, put block in side to pouring riser – just fitting in there – See sketch –



Water came through gauze but no material

Observed, that at riser end, some settlement occurred in first half hour (about 1/16") – none at other end – but on that time water in gauze – holes came up a little bit –

#35 Oct 7 - P.M.

Pours in typewriter - box (japanned) -
1 - 3 - 5 - 8 - 3½ - N°.

36. Oct. 8. 4. P.M.

~~B~~ 36 - cubes 1 - 3 - 5 - 3½
24 of B for different age test - extra
First mix 2700 cc - too much A by mistake
Added ½ of all aggregates, mixed same time again -
not thoroughly mixed - mixed 2 min longer -
O.K. but T - observed quite some H next day
Levelled off top next morning
Twice .27 .81 1.35 6 21¼
4 of each of the following ones 2.7 .27 .45 7¼
c - 5½
d - 5
e - 4¼
Seemingly all a little T -

Opened beam Oct 17 - A.M.
All stuck to beam - best surface on parts oiled with brush - next the ones oiled and rubbed dry - while the untreated parts were rotten.

Opened waterable - surface not much good but best, where lower was oiled with brush next - where oil was applied and rubbed dry again - The first part (oiled with brush) did not stick at all, but was swelling. The film (outer surface) stuck to lower where untreated, less to oiled and rubbed and not at all where oiled with brush
H much less as before
S_2 well distributed throughout

Sept. 19 -

#37 Oct 12 - P.M

Poured in beam - divided in 10 partitions
Each half partition oiled - every other one rubbed dry again - the other applied as thin as possible with a brush. No G in mix but timed differently at ~~first~~ 1 m - each, up to 10 m - Between each mix 1 m - Mix a little T - H most with first 3 partitions. Seemingly after 3 m - S_2 supported better. Had matured for 1600 in (beam & waterable) - When pouring last partition - poured waterable also - Had some one Conservizer, (between 2 pours) - ½ of lower cleaned and rubbed - ⅓ same - oiled as thin as possible - F was O.K. - S_2 supported O - A - seemingly O - when poured - applied pressure in 4 risers, two in end - risers - and two in pouring riser - Gauges seem to take good care of A.
331 - 3½ - no L
Tested Cubes #1 - test #36 - 4 p

85		97		
~~84.3~~	~~68~~ -	~~88.3~~	~~89~~	6
60.8	69	109.2	99.5	
60.8		92.2		

138 Oct 13

Opened typewriter cover – came out very easily – surface absolutely perfect – very smooth and "polished look" – field. 17.18

Tested Cubes #2 about 5 P.M – 5 p.

~~117~~		121.5	
73	~~83~~	121.5	120
85	~~85~~	121.5	
97		117	

C

#39 Oct 14

~~Testes~~ eches 3 - 10 - 11 - 12 of tel 36. all. 6p.

#3 - b -	138.5	122.5	148	134
	116.5		126	
	126		141	
	109		121.5	
#10 - c -	~~103~~	~~[illegible]~~	~~103~~	~~[illegible]~~
	97		126	125
	109	103	124	
	~~[illegible]~~		~~[illegible]~~	
#11 - d -	133.5	117	146	129.5
	121.5		129	
	104.5		121.5	
	109		121.5	
#12 - e -	103	107	116.5	~~112~~ 124
	92.5		~~[illegible]~~	
	127.5		133.5	
	104.5		121.5	

Opened after 6 days - most few mm stuck to mould - feel. # 13

Opened 4 days - In pil. # 20 - Had the deep holes between dentals filled and used Rissn on (mark clearly seen in picture)

#40 Oct 15

Poured orn. column #6 - Had copper foamed. Surface of copper fairly met - a few spots where foaming did not cover it - (Hutchetts)
331 - b - 3½ - 800 cm. - 3 n
Emulsion O - F also O - NP -
Next morning top was quite hard already

Poured 20 cubes - for age - test
431 - b - 3 - 3 n.
Might stand some more A - Not much H - Next optimum (24 9.) tom rather hard to lift off next morning.

Poured revised Cornice #2 2400 cm
331 - b - 3½ - 4 n.

Tested cubes #4 - b. - 7 f. - test #36

109	112	170	~~177~~ 177
97		~~133~~	
109		170	
133.5		182	

Filled 2 boxes with rest of Cornice mix -

#41 Oct - 14 - 15 & 16

Determined S.G. of LA and found curve giving constants for each quantity A

#1/2 Oct 16—

Tester Oster #5 — b — 8/- Lot 36

133.5	144	194	182
146		182	
146		190	
150.5		182	

0/3

Oct 17

Tested Cuber #6 - 6 - 8¾ p - ted 36

158		190	
134	153¼	~~152~~	~~178½~~
158		~~182~~	190
163		190	

#44 Oct 19

Tester Acker #9 (5) to #3 11 p. to 4 p. Tel 56 n 40

194 } 164 214 } 226
134 238

~~134~~ } ~~107~~ 165 } ~~147~~
61 73 ~~122~~
85 134 } 155
~~146~~ 165

#45 Oct 20

Tested cubes #13 - test 40 - 5p.

146		195	
134	149	~~188~~	~~188~~
~~148~~		185	192
158		195	

#46 Oct 22

Tested 4 cubes of test 40 P/c.

194		~~202~~	
214	~~197~~	218	~~207~~
~~165~~	203	~~190~~	218
202		218	

Poured 36 cubes – time to L test
321 3
24 of b – 4 of each c, d & e
could have some more A – not much H.
Levelled top next morning & made smooth surface with neat cement paste
Tops very hard. –

2 cubes filled – one ½ b – ½ c mix
one ½ d ½ e "
will open 6 p – and 10 h for long time

#47 Oct 23

Tenen 4 Cubes of lin 40 8p.

~~109~~		255	
218	~~142~~	262	257
218	220	255	
224		255	

#48 Oct 24

Tested 4 cubes of lead 40 8¾#

238		250	
~~249~~	~~243~~	296	261
224	231	248	
231		248	

349 Oct 26

Poured 23 cubes for time
331 6 3½
one box for H- measure

Tested 4 cubes of test 46. & 2 of 40
4/p 11/p

219
267 } 243

292
280 } 286

~~336~~
316
328
323 } ~~336~~ 322

340
362
352
352 } 352

Next morning cubes leveled off with
neat cement — latter half with 1-1 mortar

50 Oct 27

Recast 4 cubes of test 46 – 5 p

340	340	443	~~440~~
340		389	444
340		~~344~~	
340		400	

51 Oct 28

Vessel 16 inches of lead 46 — 6 p.

b	450 462 425 473	453	490 523 478 552	511	Across c 105-175
c	all 450		505 ~~479~~ 466 466	~~479~~ 482	
d	437 420 486 442	446	462 445 510 473	473	
e	418 430 405 388	410	~~432~~ 442 445 ~~405~~	~~431~~ 444	

Opened Cornice Nov-2 - 3¾ p -
surface O - some parts broke off - properly slightly
indurated - and would heavy to handle -
few small nickles - piet. #20

Opened mantelable Nov-2 3¾ p.
surface O - but the greater part of the deeper
ornament stuck to mould and broke off -
No nickles - piet. #19

#52 Oct 29 -

Poured 28 cubes for B test
231 a 3½
could stand more A
Levelled bows directly with plastering trowel
next morning finished cum and levelled
wd Cement mortar 1-1

Poured Cornice #3 - Japanned - No waves surface with
231 a 3½ flat hands
After filling moulds dropped large stone on
contents - and had to press the stone down -
to get it under the emulsion

Poured mantelable - #5 Japanned - on end
321 b 3
Can have more A. - after pouring -
P - about 1'-0" deep - feel impulse at bottom
found mantelable on end. - No pieces acts
perfect - lots A wd only.

Tester 4 cubes of test 46 4 p.

469	469#	535	~~564~~
473		620	
450		~~505~~	567
476		546	

#53 Oct 30

Series 4 cubes of lot 46 8 p.
and 4 of lot 49 4 p.

523		620		
558	537	627	610	
497		583		
570		608		

133		146		
~~146~~	~~149~~	146	158	
~~158~~	133	170		
133		170		

#54 Oct 31

Series 4 of lot 46 9 p.
4 " 49 5 p.

Average C
$9\frac{3}{7}$ r-76 s

~~486~~		~~583~~		
~~583~~	~~583~~	~~583~~	~~595~~	
~~583~~		~~595~~	620	
558		620		

158		~~146~~				
146	155	~~70~~		~~177~~		
170		~~70~~			177	183
146		~~70~~			190	

Opened Cornice Nov. 10th - 8 p - Surface very nicely finished - 1 or 2 small holes & moulds came off very easily - removing, supports moved on of Cornice, and topped slightly and let concrete drop off - one place damaged - see picture 21

Opened Column same time - surface not had but greater part of fine work stuck to moulds see picture # 21

#55

Nov. 2

Poured Cornice #4 - plain
321 6 3 P
can stand more A.

Poured ~~notestable~~ Orn. Column #7
321 6 3 P
can stand more A.

Tested 2# Cubes of test 46 11 p
Cracking not noticeable
~~[illegible]~~ 663 } ~~[illegible]~~ 633 } average 45/8 r - 175

4 Cubes of test 49 7 p

208		218	
218	208	228	222
202		224	
202		218	

4 Cubes of test 52

all 85
Cracking not noticeable - Very soft - Started to give almost directly

#56 Nov 3

Tests of cubes - test 49 - 8p

~~216~~		243	
214	216	243	237
218		231	
~~216~~		231	

And 4 - of test 52 - 5p.

43		97	
78	76	102	95
68		85	
85		97	

#57 Nov. 4

Tests 4 - of test 49 9p.

~~206~~		248	
~~194~~	~~213~~	243	247
231	225	255	
219		~~243~~	

Average C - 12⅓ t - 16 s

Rivetted brow off Nov 6 – with Cement mortar
1 – 1½ it took .134 cufl. of cement.

#58 Nov. 5

Poured 37 cubes – B & L – A.M
6 31 3
25 of 6 – 4 of each c, d, e.
one freezing with c, d and e for lay B
Mixing for first 8 – found out that 3 h
mos. not enough B – stone not saturated – gave
it 6 h – and everything was O. – A. turned O

In afternoon poured plaster paris cornice on
japanned moulds – to determine of
moulds moved down – and after about 30 min
setting took moulds off with little trouble
put 2 blocks of mat under iron moulds
(plaster at bottom) and tapped lightly –
plaster cast dropped down – and cast was
perfect. —

Tested 4 cubes of test ~~A6~~ 52 – 7/.

194		206	
165	178	206	~~207~~
182		~~170~~ 208	
170		214	

n² 159 Nov 6

Tested 6 cubes – 4 of test 52 – 8 p.
2 " 49 – 11 p.

267
275 } 271.

286
292 } 289

230
231
243
243 } 237.

~~286~~
~~292~~ ~~287~~
304
304 } 304

160 Nov 7th

Tested 4 cubes of test 52 – 9 p

~~344~~
~~352~~
~~340~~
~~340~~ } ~~344~~

352
352
352
352 } 352

#61 Nov 9th

Tested 6 cubes - 4 of test 58 - 4p
2 " " 52 - 11p

Amer C. 6⅛ r-178	95 97 92 97	95	109 117 102 121.5	112.3

	328 328	328	369 ~~345~~	~~357~~ 369

#62 Nov - 10th 1037

Tested 4 - of test 58 .. 5p

	121 99< 116 116	113	55 ~~[illegible]~~ 53 53	~~140~~ 130

+63 Nov. 11

Tests 16 each of Tet 58 b/p

b.	126 126 134 134	130	175 165 165 151	164
c	122 109 133 122	122	150 ~~133~~ 158 ~~133~~	~~##~~ 154
d	126 109 ~~[illegible]~~ 146	127	150 150 133 158	153 ~~##~~
e	121 122 ~~[illegible]~~ 121	~~##~~ 121	153 191 ~~[illegible]~~ 158	~~##~~ 150

In test 65 in each H Cutter had one plate 1 and one G. - When pinning - all the G came out perfect - none of the I - Concentr Much to surprise - probably new iron B.

#64 Nov 12

Tested 4 of #58 8/8

158	157	192	186
153		182	
153		192	
165		189	

Nov - 12

#65 - Power 28 Cubes for A test

421 b Used for first 8 - the new stone, but the lime was much larger than our old stock, so formed same 8 on mid old stock. For F - 8/8 no test - no piling and looked O.

Nov - 13

#66 - Tested 4 of #58 8/8

L	~~187~~	
—	204	~~204~~
—	~~177~~	192
—	187	

Opened Cornices on Nov-19- and took pictures that same day.— Both came out nicely, but varnish very unsatisfactory— Greater part stuck to moulds — most probably not enough dried— the #5 especially very bad— See pictures # 22

#67 Nov 13

Poured 12 more inches - same as test bar 3 7/8 too much A - S. not supported enough - more in last part of pour than in first - limit (safe) - 3 7/8 or 3 1/2 Same mix as for bar

Poured Cornice #5 - G and #6 - I
421 -6 3 3/4
#5 - N° #6 - P mix hands

Nov. 14

#68 - Tested 4 of #58 9p.

146		199	
182	164	209	201
158		194	
170		202	

#69 Nov. 16.

Tested 2 - of #58 11 p

158	170	243	240
182		238	

Opened orn. col #8 Nov. 28 surface Q for all raised work while the rest was good and smooth.

#70. Nov. 17

Poured probetta #6
421 6 3 3/8 - M - F was J
and consistency of emulsion fine

also Orn. col. #8
Same remarks. —

#71 Nov - 18.
Tested cubes of test #65

VIII new	198, 218, 194, 206	204	VIII old	243, 228, 226, 214	228
3 1/4 r. 17 s			3 3/8 r. 17 s		
4 1/4 r. 17 s	170, 158, 165, 170	166	IX old - all		194
IX new			5 1/8 r. 17 s		
X old	210, 204, 206, 206	210	XI old	204, 194, 198, 212	202
6 1/8 r. 17 s			4 1/4 r. 17 s		
XII old	206, 218, 214, 224	216			
5 1/2 r. 17 s					

Varnish

Plate	Whole Side	Kind of Varnish	Surface	Remarks
1 -	rough	Morris's varnish	fair good	Hard to get off
2 -	"	Asphaltum	"	"
3 -	"	Morris's Varnish	"	"
4 -	"	white paint	part of surf. fairly good	"
5 -	"	Valentine's gum paint	fairly good,	but notwithstanding of surface that to
6 -	"	Black Japolin	N.G.	phase - hard to get off
7 -	"	Morris Varnish	"	"
8 -	"	Devoe's high gloss	good - not perfect	"
9 -	"	Mooney's Varnish	"	easily to get off - dry remark to
10 -	"	Varnish brush paint		for 5
11 -	"	Locked in oil	"	" - dull surface
12 -	"	Mooney's Black varnish	"	hard to get off
13 -	finished	Japolin	"	"
14 -	"	Japanese 2x	fair well	"
15 -	"	" Onle	N.G.	"
16 -	"	" -2x -	"	"
16 -	rough	plain	poor	"

9 and 10 were the only ones, that fell off and 10 was very poor - the surface is dull, not perfect and so is 9 - although the collection titles to paint.

Opened #8 - Nov. 23 - surface OK - foil looked which like foil 22 - #6 — part of leg and dental sticks. —

Opened last test on Nov 24 - and took picture — see report above

#12 Nov. 19

Tested cubes of test 6f

XIII			XIV		
15 f r - 16 s	134, 153, 136, 134	139	15 f r - 16 s	165, 158, 175	166
XV			XVI		
6 f r - 16 s	102, 112, 102	105	6 f r - 16 s	90, 97, 98, 97	95

#13 Nov. 20. —

Poured 16 cubes for L test. — 421 - XIV - 4p b, c, d and f. — only b satisfactory - the rest required 6 m - to get a good emulsion and even then was not J and turned T

Poured Corners #7 - I - 421 - XIV - b - M and #8 - G. - same - but poured face down and surface first bowled and was S mixed with B - L - A - then P. - On Nov 21 - took box out - printed corners and gave back a bulbs finish. -

Poured boxes for surface test - with plates and different paints. - 421 - b - XIV

#74. Nov 27

Found 21 cubes for B test
ill 421 – 6 – XIII

#75. Nov 27

Tested 16 cubes of test B and 4 of #74

b 219, 197, 214, 233 } 219

c 214, 231, 206, 197 } 211

d 238, 288, 291, 252 } 255

e 231, 231, 219, 262 } 255

All – 8 4/p.

187, 176, 190, 182 } 182 – 4 p.

#76 Nov. 28.

Tested 4 cubes of ~~test~~ #74

b 226, 236, 226, 221 } 229 3/4 5 p.

Plate		Opened Dec 4		
2	Rough	13	Q - U	
6	"	14	V - U	
9	"	7	J - Same result as before -	Z
10	"	25	J - W - perfect	Z
11	Finished	11	Partly J - Center of plate Q - then J.	X
12	Rough	4	Q	
16	Lapped Finished	25	Q	
20	Finished	16	Q	
22	Rough	10	V -	
23	"	10	Q	
24	Lapped	10	Q	

#77 Nov 30

Dated 4 cubes of test #74

8 ~~305~~ ~~294~~ 294 7 P.
287 284
280

Opened cornice #7 of test #73. Surface Q suppose by on account of putting A on before pouring the concrete in the mould

Poured boxes for surface test with plates having different paint 421 - 6 - XIII

#78 Dec 1

Tested 4 cubes of test #74 8 f

~~286~~
292
296 } 294
~~288~~

Opened of bed L 80

Plate	Side	Treatment	Remarks
1	G^2	6	Q - U
4	"	2	V - X - Some parts stuck - U
5	"	9	Q - U
8	"	8	J - W
13	G	21	V - W - X - from parts stuck - surface broke / pressure - not rolled
17	"	12	Q
3	G^2	19	Q
14	"	18	Q
18	"	15	Q ~~V - X - W~~ - outer film stuck
19	"	17	Q
21	"	20	V - X - W - outer film stuck
7	"	5	J - W - bed of all

Opened of #81 - opened Dec 10 -

Plate	Side	Treatment	Result
23	G^2	30	Q
15	"	23	Q
22	"	34	Q
24	"	31	V - U - 31 came off
11	"	22	Q
8	"	8	almost J - U
7	"	5	V - U
20	"	11	J - W
16	"	24	J - W
9	"	33	J - W

2 - G^2 - 26 - J - W
12 - G^2 - 25 - J - W

#79 Dec 2

4 Cubes of #74 9 p

267
372 } 322
287
360

#80 Dec 4

2 of #74 11 p

301 } $307\frac{1}{2}$
304

Found bones with plates for surface
421 - 6 - VI
Opened Dec 7 -

Dec 7

#81 -
Found bones with plates for surface
421 - C - IX. Plate #8 & 7 of bed 70 used over again without drying.

Found waterfable (blue) #1 & #2 - Faeodown
#1 - surface beaten with 25 - rubbed off
#2 - G^2 - Both A^2 - C - IX - M
Opened Dec 10 - not side off Dec 8
#1 - perfect - W - a few blisters - emulsion V } filed #24
#2 - U - most of Emulsion stuck to mould

Plates of plate test - opened Dec 14

face down No.			Remarks	
2	G^2	26	J - W - few L_2	Return Ind.
3	G^1	38	Z^1 - W - Z^5	
4	"	28	Q - U - partly J - Z^5	
5	"	36	" "	
6	G^2	14	V - U - Z^3	
9	"	33	J - W - Z^5 - Z^2	Return
10	G^1	27	Q - U	
12	G^2	25	J - W - Z^2	Return
13	"	12	Q - U	
16	"	24	~~W~~ - J - W -	Return
17	"	21	J - W - Z_4	
19	G^1	29	Q - U	
20	G^2	11	J - W - Z^2 (a few	Return
21	G^1	21	V - U - Z^4	Return

#32 Dec 10

Found iron matrices #3 - standing up - 24
#4 - face down - 25
A^2 - b - XIII - M

Found plate for surface - face down
A^2 - b - XIII - M

Found plate for surface - standing up
A^2 - b - XIII - M

Opened matrices on Dec 14
#3 - W - quite some Z^2 - V - usually 24 ; too thick and A adheres to it, causing surface to be less good -
#4 - Z^1 - W - one place stuck - absolutely no Z^2
See picture #25

#33 Dec 14

Found in mutulate #5 – face down
A² – 6 – XIII – M – applied 25
pil #26

#6 – up – mis 24 –
A' – c – XI – M pil #26

Cornice #3 – down
A' – c – XI – M pil #28

Opened #5 & #6 on Dec 16 –
#5 – not as good as #4 – } stuck at more places
#6 – a little better than #3 } pil. #26

Opened Cornice on Dec 17 – nearly perfect
on or 2 little places on dentals stuck
and 2 " points in tympanum
See pick. #28

Result of plate test - Opened 18th

32 - 55 - U - Q - Z^3
48 - 44 - 25 - Z^1 - Z^4 - V
27 - 56 - W - Z^1 - Z^4 - Z^5
12 - 53 - Q - Z^3 - U
24 - 52 - Q - U - Z^3
14 - 51 - G^1 - Q - Z^3 - U
30 - 57 - U - Q - Z^3
29 - 57 - 25 - Z^2 - W - J
11 - 50 - U - Z^3 - Q
28 - 49 - U - Z^3 - Q
46 - 49 - 25 - Z^1 - W
49 - 44 - V - U - Z^3
36 - 39 - Z^1 - W
37 - 41 - Q - U - Z^3
38 - 42 - W - V - a few places stuck, but not enough to thaw stone
39 - 25 - Z^1 - W

4 - A^1 - Q - too not thick enough
other Z^1 had cracked - maybe too green
only 15 q -

Surface of #8 easy to rub off - not so of #4

#84 Dec 16

Poured 2 boxes (16 plates) for surface
A^1 - XII - ~~A~~ C

Poured 9 boxes with balls -

Box		Wt.	Result		
1	Steel - G^1 -	15.4	U - Z^1		Noted that all plates (min had 25) had run starting to dust and run leaving
2	"	"	U - Z^1		
3	" - 25				
4	C.I. - G^1	15 q	U - Z^1		
5	"	"	U - Z^1		
6	"				
7	" - 25	15 q	V - Z^1		
8	Wrot. - G^1	"	U - V		
9	"				

Poured 10 washers
4 - A^1 - C - XII 2 - A^8 - 2 A^9 - 2 A^{10} -

Poured mutetables #7 - Dum - 25 } A^1 - XII - Black C
" 8 " 24 } Inch M

Opened mutetables Dec 18 -
#7 - Z^1 - a few Z^2 - W
#8 - Z^1 - W - moved dropped back by accident and damaged cast a little -

Rel. #29

#85 Dec 17

Plugging up test. —

~~Book~~ Mine

1 A' - Y - one side Bond get 1/2 way - others all 1"
6 " - put in more A - marked J -
7 " " Same ——— - 25 days not been to effect bonding

Sent to makers — all Cementing of mortar

2 - A 8
2 - A 9
2 - A 10
2 - A 11
2 - A 12

Opened Dec 18 - Ucrf. 1 ring All J.

Recast of plugging test

1 - Poor fairly good - bond OK
16 - " " " "
7 " " " "

Broke blocks to judge bond Dec 23

#86 Dec - 18

Sound Course #9 - down fit #28
A' - 8 - XII - M -
Opened Dec 22 - Z' - W - 1022c

Shipped up holes of test #34 as follows —

2 -	A' facing -	A'' facing -	standard LA (2)	comes under #34
3	"	"	"	
4	"	"	"	
5	"	"	"	
8	"	"	"	
9	"	"	"	

Result -

Broke blocks to judge bond Dec 23

#2 -	no bond -	no cracks in surf -	bond in lower part
3	"	cracks "	"
4	bond	no cracks	"
"	"	"	"
8	no bond	cracks	"
9	bond	no cracks	"

#3 and 8 - The core was not loaded at all to surface - and between the 2 was a crack.

Received of plate test - Opened Dec 22

35 - 46 - 25 - Q - U
33 - 43 - 25 - Q - U
28 - 27 - 25 - Z'
34 - 45 - 25 Z'
42 - 45 - Q - U
41 - 45 - 39 Z'
47 - 44 - 25 Q - U
46 - 49 - 25 Z' - little Z^2

48 - 47 - 25 Q - U
43 - 47 - 42 Q - U
26 - 43 - 25 Z'
44 - 48 - 42 Z' - Z^5
31 - 30 - 39 V - U - Z^3
36 - 39 - Z'
38 - 42 Z' - Z^5
29 - 57 - 25 J - little Z^2 little mustypots

See pict #26 for thickness —

#87 Dec 19

Found iron matrix #10
A' - 8 - XII - M
Opened Dec 22 - Z' - W - pat. #29

Found 2 boxes with plates for surface
A' - 8 - XII - M

Found matrices -
2 - A' } Reinforced with 2 rings
8 - A^{10} }
Opened Dec 22 -
The 2 - A' - W - rest all U -
Some broke - to green

Found 9 boxes for bolt hole test plates

1 - steel - $\frac{1}{4}$"	211	Core - A^9 fair - poor	good - poor
2 - "	211	all - poor -	good - none
3 - " 1"	211	Core A^{10} fair - bad - bad - poor	some poor
4 - C. I - $\frac{1}{4}$"	A'	all - very poor -	behind OK - none
5 - "	A'	Core - $11\frac{1}{2}$ fair - fair - OK	some
Drawn out"			
7 - "	$2\frac{1}{2}$	$1\frac{1}{2}$ 1 all - fair - good	some
8 - Mard - shelled	Q - on account of breaking of mat.		
9 - " - 51	Flash on cracker		

Filled Dec 28 - Tal 89

Washers - W - tub out separator also - being low on account of oily surface. —

#88 Dec 21

Pound slab -

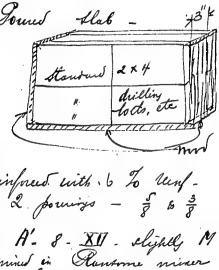


plate are finished - 57 when L² in Castings. used C.I washers - 1" thick pipe separator -

reinforced with 6 ⅞ reinf - 2 forgings - ⅝ to ⅜ 7/16 □ rod - bent form blue 8½" CC

A' - 8 - XII - slightly M - Super - 25 mixed in Ransome mixer - 6" - dumped in bucket and carried inside and poured

Tops wooden sides off Dec 22 and levelled off top. —

Took plates off Dec 24 - Concrete - a few A' - near top Concrete also dense - in general good - 57 seems to have run - near top plate had burst and not filled & bolthole with A' - 14 - seemingly good color

#29 Dec 28 All down

Moved as follows: - R' 8-XII

5'-0" Curve walkable #1 - G'' 25

lifts moved Dec 28 - Z' - a few L'' pict #27

Archpanelborder #1 - G'' 25

opened Dec 28 - Z' - some L'' pict # 27

Walkable & Curve #1 - G'' 25 pict # 27

opened Dec 28 - nearly L' - some L'' a few place thick

12"x12" Corner of walkable #1 - G'' 45-39

new sand used

Opened Dec 28 - Z' - Color Antler - surface L pict # 27

Curved windowsill #1 - G'' 45-39 - new sand

opened Dec 28 - Z' - surface Z pict # 27

Straight walkable #9 - R' 8-XII - mistake of H.

#11 - " 45-39

Used - for S_2 - $\frac{1}{2}$ S_1 (crane) - $\frac{1}{2}$ - S_3 } F - Q, E - E_2

for S_1 - used S_4

Opened Dec 24 - damaged #9 - but Z' - a few L'' broke #11

Color: slaty grey pict # 26

Filled boltholes (see page 71)

Weather

Jan 9 - Cloudy - slight thaw at night
" 10 - " - damp
" 11 " " - slight rain during night
" 12 " " " frozen by frost
" 13 freezing - clear - thaw during night
" 14 slight rain in morning & during night
" 15 clear, thawing, freezing during night
" 16 cloudy, freezing, in afternoon snow
" 17 snow & rain, freezing
" 18 clear, freezing
" 19 " "
" 20 " "
" 21 " slight thaw
" 22 " thaw

Continued page 78

New starts here. 71

#90 Jan - 9

Put 6 plates out in the weather at 11 P.M.

15 - G_1 -	Evenly covered with rust
31 - G_1 - 39	Numberless rusty spots
27 - G_2 -	Slightly rusted
36 - G_2 - 39	No rust - a few water drops - rust starts
37 - G_1 - oxidized	Evenly covered with rust
48 - G_1 - " - 39	Rust spots - less than 31

* under drops slight discoloration (yellowish)

Jan 12.	Jan 13	
Same	Same	ice on all surfaces.
more spots -	Same	
little more rusted	Same	
Same	Same	
Same	Same	
more spots - less than 31	Same	

Jan - 14 - Covered with snow - thin spot over 36 - discoloration more pronounced - turningly rust starts —
Jan 15 - All more rusted — 48 still covered with snow
36 - Evenly starts to rust.
Jan 16 - All except 27-36 thick rich rust, 15 & 37 evenly
27 - some rust - 36 very slight rust spots, hardly noticeable
Jan 18 - Covered with ice and snow.
Jan 19 - " "
Jan 20 - " "
Jan 21 - " "
Jan 22 - All more rusted - *36 - a few slight rust spots

#91 Jan - 14

Found Cups for impermeability test
#1, 2 & 3 — A, + - XII Patent b
used little pouring basin - opening too small,
Cuts chokes in it - lost considerable metal in
miner on account of leakage -

#4, 5 & 6 - A^2 - $S\frac{3}{8}$ XIII - Mined (mv) D_2
F_1 - E is E_1 P = b

Filled 2 boxes (with Kine plate) met A, min
#1 - Kine - G_2
#2 - " - G_1

Tested 2 cubes of lot #40 - 7+83
$\left.\begin{matrix}559\\680\end{matrix}\right\}$ 620

Opened Cups Jan 13 - #1, 3, 4, 6 Cracked, on
account of swelling of molten core.
Opened boxes -
#1 - W - surface Z - a few Z_2, on account of ~~paint~~ M_4
Z_3 and M_1
#2 - W_1 - { see picture #33

#92 Jan 18

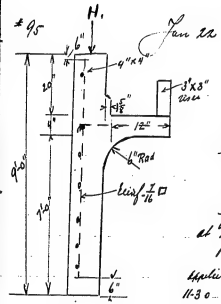
Found bones 1 & 2 with Bineplates
A_1 - 8 - XII
#1 - G_2
#2 - G_1 - 39 } M_3 - M_1 - wood, shaking box

Opened Jan 22 - #1 - W_1 smoothed - Z_3 - little Z_2
#2 - W_1 a little - Z_2 - Z_3 - bed Z_1
on place Cover. W_2 - see fig #33

#93 Jan 20
Tested 2 sticks of bed 4.6 6 + 84
1472 } 1333
1194 }

#94 Jan 22
Found bones with Kinep plates
A_1 - 8 - XII
#1 - G_2 - 39 } M_3 - M_4 - waved.
#2 G_1 - 25

Opened Jan 26 -
#1 - a little W_1 - Z_3 - 1 for Z_2
#2 - W_1 - Z_3 - Z_2 - on little place W_2
see fig #33



A₁ - 8 - XII
First four filled all nearly - F & J - Corner up through iron topped this off mid flash with ⁺ pieces - While waiting for 3rd piece M - all M₈ filled at 10-55 at 11-5 - applied Mg. O - 11-15 to

Applied same at 11-20 - 11-25
11-30 - 11-32½ - 11-34½ - 11-36
11-37½ - 11-40 - 11-43 - 11-46
11-49½ - 11-51½ - 11-54½ - 11-56
11-57½ - 11-58½ - 12-0 - 12-2
12-3 - 12-4 - 12-6.5 - 12-8 - 12-10
12-12 - 12-14 - 12-16 - 12-18 - 12-20
12-22 - 12-24 - 12-26

Final H₁ being 9 v v O - Total H shut M"
Applying of H₁ not noticeable at time - Removed H₁ Jan 25

Took form off Jan 26 - all U - Surface Q₁ for ~~[illegible]~~ X₁ - Corner in 3rd piece Q on account of X₁ Absolute no Z₈ - riser broke off while removing nuts - See pictures 31 & 32

Jan 23 - damp, cloudy, thawing
Jan 24 - foggy, thawing
Jan 25 - clear weather, about freezing
Jan 26 - " " "
Jan 27 - " " "
Jan 28 - " Cold
Jan 29 - cloudy - snow & rain afternoon - snow during night
Jan 30 - snow - freezing afternoon
Jan 31 - clear - freezing
Feb 1 - freezing - clear
2 " "
3 - snow
4 to 13 - snow, rain, freezing, etc
14 - rain

#90 - Continued from page 74.

Jan 23 - Same as 22 -
Jan 24-25 "
Jan 26 - 36 starts raining - 27 - not evenly rained yet
27 "
28 "
29 - Cloudy with snow
30 - "
1 - 36 - 27 & 37 hardly covered with snow
Rd 9-11 except 36 & 27
2 - Same
3 - Ground with snow
12 - 36 - a few $\frac{1}{10}$ - 27 Same

#96. Jan 26

H_2 of Cake 49 (one $3\frac{1}{2} \times 6$ - 6 + 85
one 6×6 - 10 + 87

505 } 532 826 } 815 ← neglecting outer ½
558 } 805 }

#97 Jan 27

H_2 of Cake 52 8 + 83
795 ← 1144

Jan 27

#98 Poured A^2. very thin, on old block, throughout surf. not melted

Also - on block - surf. melted thoroughly

1st sets quick, dries quick — R_2
2nd " slow " " — R_1 } See point #33 { A B

#99 Febr 3

H_2 of Cake 58 6 + 84
425 ← 612

#100 Febr. - 10

Found ornamental moulding in plasterwork — 39
A' - XII - 8 —
Took for moulds sides off Febr 11.
Took moulds off Febr 13 — moulds stuck
had by setting plaster, came off fairly
good. —

#101 Febr 24

H. of Cube 74 9-34

535 & 770

#102 Febr. 24.
Nat A - a top } merinoes Best
" B - side surf } Very good
(bottom picture)

#102 Febr. 25

Covered 2 blocks of concrete, thoroughly dried, one with 14 (2 coats), one with 53 ~~with~~ 19 – put on. mirbanesile in open air on Febr 26

April – 5 – A – Some places 14 cracked
B – all cracked & 53 shivering
off – Q

104 – on blocks of test 35
on open – perfect
14-14
5-5 "
80-5 " not very glossy
13-13 "
on grid surface
4-4 OK
18-18 } yellowish
11-19 }

red band
yellow band
— " "

105 July - 19

Slab for color - experiments (Mr E)
2'-0" x 2'-0" x 3" — used Cast iron
covered with wooden sides —
#1 opened 7/21 - for green - streaks some pieces
opened #2 7/23 - Much pub o by space
#3 - 7/27 - 2 little spots streak
graphite of castings comes off and
dirties surface

106 poured same slab - #1 slab -
cleaned plate with muriatic acid -
opened 7/27 - comes off clean
and easy - yellow band

107 Poured 6 cups for polyperspiry tech -
band 6 green 7/23 - for green
~~opened~~ left plugs out of cast - 7/26 - come
out clean

108 - Poured 6 cups 7/27 - opened 7/30
came out clean

109. Poured box with glass front
opened 7/30

110 Poured 6 malleables — 7/27
Cement 1-2-8 on 7-30 —
made by Green — cement
mixed have been slow setting. —

111. Poured 6 cups for water-pr. tests — Clay - 2

112. Poured slab (36 square) for color-supplement

113 Poured 6 with glass front - Glass broke

114 Poured 4 cubes for comp. test

115 (w.) Tested red Clay of banks.

115 – 8/2
Tried to use yellow clay – Oil had broken more dirt and grit, and quantity used is more than grey

116 – 8/5
Made 6 cups for milcyp. tests

117 – 8/2
Turned 36 blocks for color tests

118 – 8/9
Tested cubes of test 114
Ants. 316 —

119 –
120
121
122
123
124
} Analysis of sand, slag, etc. & test mix streams. —

Notebooks by Experimenters Other Than Edison
Group 5: Chemical Laboratory

The forty-one notebooks in this group contain routine reports of ore assays, chemical analyses, and other work performed in the chemical laboratory of the West Orange laboratory complex during the period April 1899-March 1913. They were used by many Edison employees, including Cloyd M. Chapman, Peter C. Christensen, and Ludwig F. Ott. Occasional notations by Edison indicate his attention to their work. Among the tasks reported are assays of copper, gold, iron, and nickel ores, as well as cement rock. There are also reports of quantitative and qualitative analyses of various materials and chemical compounds such as pig iron and soft coal, along with analyses of ingredients and components used for phonograph record blanks. There are some entries relating to the production of storage batteries, including analyses of the acid baths used to produce nickel flake for battery electrodes. The books contain a variety of other experimental and test reports, including one on the "preservation of horse dung." Entries in German are scattered throughout several of the books. In addition to the entries by Chapman, Christensen, and Ott, the books contain notes by other laboratory employees, including O. R. Foster, Horace W. Gillett, Otto Groethe, Henry S. Harris, Harold Kirschberg, Ross Phillips, Robert Rafn, John O. Roos, John C. Shengle, H. L. Shock, and F. W. Weber.

The one selected notebook, N-05-12-21, was used primarily by Ott. It contains extended marginal notations by Edison indicating the results of solubility tests and other experiments related to the production of components for storage batteries. Only the portion of the book with Edison's notes has been selected.

N-Number	Label or Inscription on Front Cover
	[additional information supplied by the editors appears in brackets]
Selected Books	
05-12-21	---
Books Not Selected	
99-04-15	--- [cement assays]
99-06-22.2	"General Analysis H.L. Shock 1899 J.C. Shengle 1900" [ore]
99-06-24.2	"#1 Assaying #1 to 190 A"
99-10-06	"Analyses of Raw Rock Book #2"
99-10-19	"Cement Analysis Book #3"
00-01-10	"Analysis for the Edison Mfg Co" [by John C. Shengle]
00-03-29	"Analyses" [ore]
01-04-10	--- [storage battery, phonograph cylinder, and other subjects]
01-06-21	"Mount Olive Range"
01-06-22	"Mount Olive Range"
01-09-04	"9-5-01 Nickel and Copper Analyses"
01-12-11	--- [ore survey and analysis]
02-07-16	--- [storage battery, phonograph cylinder, ore analysis, and other subjects]
02-11-10	--- [lime slaking experiments]
04-01-11.1	"Rob. Rafn Jan 11 1904" [ore survey and analysis]
04-01-11.2	--- [continuation of N-04-01-11.1]
04-11-21	"Laboratory Notes Edison Laboratory Dinan" [storage battery, cement, phonograph]
05-00-00.2	"Thermochemical Data"
05-00-00.4	"Caskey Vol I." [titanic acid and sodium bisulfate]
05-07-14	"Analysis Lab Edison"; "Testing Cobalt Ores for Radium"
05-09-29	--- [ore survey and analysis]
05-10-02	"O.R. Foster" [ore analysis]
05-12-24	--- [ore analysis]
06-01-29.2	"Notebook R. V. Husser [?]" [cobalt]
06-02-26	"[Composition?] von Ludwig Ott" [cobalt]
06-05-02	"Ludwig Ott" [cobalt]
06-07-02	"H. W. Gillett July 2 - Sept. 7 1906" [metals for storage battery]
06-09-11.2	"11 9 06 Dr Weber"
06-10-01.2	"H. Kirschberg" [storage battery or related subjects]

07-01-00	"Dr. Weber Experiment und Praeparate 1907"
07-01-01	"Samples Tested for Cobalt 1907 Edison's Laboratory"
07-01-11.1	"R Phillips" [storage battery]
08-09-04	"Bull Shit Book Cave" [viscose experiments]
08-12-07.3	"Belt Experiments"
09-06-00	"Distillation of B.S., Gilsonite Etc. Cave"
09-09-02	"Experiments of Paul Senter Laverty" [motion picture film]
09-11-15	"Notebook of Ludwig F. Ott Containing Experiments and Analysis for T. A. Edison——From Nov. 15 1909 to June 22, 1910" [storage battery and other subjects]
10-00-00.1	"Solvents"
10-01-19	"Ch. Christensen Edison Laboratory Orange N.J. Jan 19–1910" [disc phonograph records; storage battery]
10-02-02	"Ch. Christensen Edison Laboratory Orange N.J. Feb 2nd 1910 Experiments for Mr Th. A. Edison" [disc phonograph records; storage battery]

Notebook, N-05-12-21

2 2a no dis

3 good solvent 3a no dis

5 very good dis - 5a dont dis

7 7a Colored

8 dis a little - 8a solid swells up [illegible] at comes out top bottle - see about this

9 - 9a neither dis

11 - 11A neither dis

12 dis good 12a dont dis

Solubility of Dec 21/05
Cobalt and Nickel Sulphates in.

Co 1		Chloroform
Ni 1a		
Co 2		CS_2 dont.
Ni 2a		
✓ 3		Ether dont.
3a		
4		Ethylic Alcohol
4a		
✓ 5		Benzine 4
5a		
6		Amyl Nitrate
6a		
✓ 7		Aniline (other Clear) 1
7a		
8		Benzaldehyde 1
✓ 8a		
✓ 9		Nitro Benzole 1
9a		
✓ 10		Carbolic Acid
10a		
✓ 11		Benzoyl Chloride ✓
11a		
✓ 12		Aldehyde dont.
12a		

13 13a neither does

14 14a good dis both

15 15a no dis

16 16a good dis

17 17a no dis. 17 gives acid whereas 17a liquid

19 19a no dis

20 20a no dis

21a - Colored lumps no dis

23 23a [illegible] dis a little, 23 [illegible] dis

25 25a no dis

13 co
13a mi } Butyl (iso) Acetate

14 co
14a mi } Camphor

15
15a } Carbon Tetra Chloride

16
16a } Chloral Hydrate

17
17a } Cresol (Para)

18
18a } " (Meta)

19
19a } Cumol

20
20a } Eucalyptol

21
21a } Febridine

22
22a } Mono chloro Benzol

23
23 } 4 bromo 1 1 Phenol

24
24 } Naphthalin

25
25 } Oil Amber

26 26a precip - 6 days well on both

27 27a both good dis

28 28a dont dis

29 29a - dont dis

30 30a both dis

31 - colored

32 dis fair, think 32a dis some contrary

33 33a - 33 dis fair - 33a dont dis

34 34a neither dis

35 35a neither dis

36 36a neither dis

37 37a - 37 (dis red) 37a dis

38 38a both dis

39 39a Colored dry

26 / 26 > Pyridine

27 / 27 > Alcohol Propylic

28 / 28 > Castor Oil

29 / 29 > Oil Hemlock

30 / 30 > Acid Meta bromarcetic

31 / 31 > Amyl Iodide

32 / 32 > Oil Fusel

33 / 33 > Amylene hydrate

34 / 34 > Terbene

35 / 35 > Terpinol

36 / 36 > Terpineol

37 / 37 > Isovaleraldehyde

38 / 38 > Filix dep (Filix)

39 / 39 > Creosote (Beechwood)

40 40a neither dies

41 41a Colored Liq

42 42a neither dies

43a dont dies

44 44a both dies

45 dies and 45a dont dies

46 46a neither dies

47 47a both dies 47a not dies

48 ~~[illegible]~~ 48a not swollen) at all no dis

49 49a Colored Liquid

50 50a Neither dies

51 51a neither dies

52 dies 52a dont dies except a little of blood

53 53a neither dies

40 / 40 > Styrol

41 / 41 > Isobutylbromide ✓

42 / 42 > Iron Oil ✓

43 / 43 > Methyl Oxid Salicylic (Methol)

44 / 44 > Aethetracter ✓

45 / 45 > " Salicylic ✓

46 / 46 > " Benzoic ✓

47 / 47 > " Succinic ✓

48 / 48 > Di Amyl Amine ✓

49 / 49 > apiol ✓

50 / 50 > anisol ✓

51 / 51 > Aether Cleanthic ✓

52 / 52 > amyl Oxid Butyric ✓

53 / 53 > Benzene Anilicacid ✓

54 54a ~~both~~ neither dis ~~both~~	54 54 > Methyl Oxid. Benzoin ✓
	55 55 > Acetal
56 56a Sol colored	56 56 > Ethyl Aniline ✓
57 57a Sol Colored cant see if dis	57 57 > Methyl diphenylamine ✓
58 58a neither dis	58 58 > Carbon Bi chloride ✓
59 59a good dis. 59 good but not	59 59 > Hydroxylamine Hydrochloride ✓
60 60a both dis. good	60 60 > Nitro Benzene ✓
61 61a apparently neither dis	61 61 > Mono Chloro phenol ✓
62 62a neither dis	62 62 > Isobutyl iso butylat ✓
63 63a 63 dis some trouble 63a apparently none dis	63 63 > Anilin Oxalic ✓
64 dis some 64a dont dis apparently	64 64 > Amyl Oxid Formic ~~not enough~~
65a slight dis no 65	65 65 > Hydron not enough
66 66a 66 slight dis 66a Cant see any dis	66 66 > Amyl Butyrate

67 67a precipes smaller both up commonly

68a good dis 68 atts

70a - dont dis - no 70

72 72a Dont dis

73 73a both good dis -

74 74a good dis dissos both

75 75a Colored cont any of dis

76 76a - Dont dis -

77 77a 77 dis consumably but not 77a seeing any dis

78 78a both slightly -

79 79a dont dis

67 67 > Tri methyl amine

68 68 > Ethylene Mono Acetate

69 69 > " Chlorohydrate not enough

70 70 > Nitro Propionic not enough

71 71 > Acetal not enough

72 72 > Gasolene

73 73 > Ethyl Acetate

74 74 > Methyl " Absolute

75 75 > Styrone (Liquid)

76 76 > Isobutyl Aldehyde

77 77 > Methyl Salicylate

78 78 > Ethylene Chloride

79 79 > Isobutyl nitrate

80 80a bath dissolves a little

81 81a precipitates, swells up enormously

Bath dissolves - Co Rd.

80 } Pulvis
80 }
81 } Picolin
81 }
82 } Isopropylcitrate
82 }
83 } Mylidine
83 }
84 } Naphthalene Monosulfonat (alpha)
84 }
85 } Methylene Jodide
85 }
86 } Quinolin
86 }
87 } Oil Pennyroyal
87 }
88 } Fresenized
88 }
89 } Lavander
89 }
90 } Juniper Berries
90 }
91 } Pear
91 }
92 } Rosemary
92 }

101 bo discolors slightly when used

104 bo discolors slightly

93 > Peppermint Oil
93
94 > Oil Orange
94
95 > " Savine
95
96 > " Rosemarinus
96
97 > Rosemint
97
98 > Cedrat
98
99 > Wormwood
99
100 > Fennel
100
101 Wintergreen ✓
101a
102 Jasmine
102a
103 (Pepper (Black and white)) Thyme
103a
104 Eucalyptus ✓
104a
105 Birch
105a
106 Mace
106a

157 stront
158 Pb
159
160
161 Chloride Aluminum
162
163
164
165
166 Arsenates K potassium
167 (Arsenate) Na sodium
168
169
170
171 Arsenites K
172 (Arsenic) NH4 ammonium
173
174
175
176 Arsenides
177
178
179
180
181
182 Cyanates Mg (cyclo)

Notebooks by Experimenters Other Than Edison
Group 6: Meters [not selected]

The seven notebooks in this group cover the period February 1899-February 1904. They were used by Edison employees P. F. Cowing, H. M. Phillips, John O. Roos, and Nils Traaholt. The entries in N-03-11-16, by Traaholt, are stamped by Frank L. Dyer. The books contain logs and experimental notes relating to meter tests, which were probably done for the Edison Illuminating Co. of New York. The meters tested are mechanical rather than electrolytic or electrochemical.

N-Number	Inscription on Front Cover or Flyleaf
99-02-28	"Experimental Integrating Meter Motor type H M Phillips Feb 28 to May 22, 1899"
01-09-20	"J O Roos Expts on Meter, Plating Zinc on Magnesium, e[t]c."
02-02-25	"Recording Ammeter job 868 & job 1323 Book II"
02-09-03	"Recording (cores) Ammeter P.F. Cowing Book I"
02-12-05	"Recording Ammeter job 1323 Book III Dec 5th 1902"
03-09-30	"Electric meter 1903 N Traaholt"
03-11-16	"Nils Traaholt No. 2"

Notebooks by Experimenters Other Than Edison
Group 7: Phonograph Experiments

The twelve notebooks in this group cover the period January 1900-January 1911 and are divided into three subgroups. They were used by Edison employees, including Ignacy Goldstein, Alexander N. Pierman, John C. Shengle, and Charles N. Wurth. Occasional notations by Edison indicate his attention to their work. The books also contain notes by other laboratory employees, including Peter C. Christensen, Paul S. Laverty, John F. Ott, Frederick P. Ott, and Martin A. Rosanoff.

Ten notebooks have been selected, along with one loose item from N-09-01-03. Of the unselected books, N-03-01-07 was abandoned after five pages of perfunctory notes on cylinders; and N-09-01-03 contains extensive foreign-language entries that are summarized in the selected loose item, a letter from Goldstein to Edison.

Phonograph Records—General

This subgroup contains general notebooks that focus on the chemical composition, hardness, durability, and molding of record cylinders and discs. The research documented in these books ranges from tests of waxes and metallic soaps for cylinders to later work with shellac and other resinous compounds for discs.

N-Number	Inscription on Front Cover or Flyleaf
	[additional information supplied by the editors appears in brackets]
03-03-14	"M.A.R. 1418"
03-10-05.2	"M.A. Rosanoff, No. 1"
09-01-03	"Record Wax Goldstein" [only loose item selected]
10-07-29	"Shellac and Napttaline PSL"
10-11-19	---
03-01-07	--- [not selected]

Phonograph Records—Shengle Books

This subgroup contains notebooks that relate specifically to the work of John C. Shengle and his assistants in the chemistry laboratory of the West Orange laboratory complex. These books focus primarily on the chemical composition of record cylinders. Books 2-4 contain numbered experiments 666-1045. At the beginning of Book 2 are additional notes on a variety of chemical experiments and analyses dealing with ores, batteries, waxes, and acetylene. Book 1 has not been found.

N-Number	Inscription on Front Cover or Flyleaf
00-02-27	"2"; "General Analyses & Experiments. Work of Geo. Horn and McGraw under supervision of John Clarence Shengle Book #2" [including experiments 700-799]
00-03-12	"3"; "Phonograph Cylinders Book #3 John Clarence Shengle" [including experiments 666-699, 800-999]
00-05-25	"4"; "Cylinders"; "1900 Phonograph Cylinders Book #4 John Clarence Shengle" [including experiments 1000-1045]

Phonograph Recording and Reproducing Apparatus

This subgroup contains three notebooks regarding the phonograph machine itself and includes material on the improvement of recording and reproducing mechanisms. The first book contains two pages of notes by Frederick P. Ott on diaphragms. The second book covers the period 1905-1910 and was used by Charles N. Wurth, a long-time Edison employee, to describe his work on phonograph recorders, reproducers, and attachments, as well as the composition of records and the duplication of masters for record manufacture. Also included are a few experiments on a combined phonograph and motion picture device. The third book is from the Legal Department Records and pertains to the patent interference case, *Dennison* v. *Pierman* (no. 28,395). It contains Alexander N. Pierman's notes on a pneumatic amplifier, a device that is also mentioned in Wurth's notes.

N-Number	Inscription on Front Cover or Flyleaf
03-10-09	"Fred P. Ott, No. 2"
05-08-15.2	"C. Wurth August 15, 1905"
[unnumbered]	"D[ennison v.] P[ierman] Intf"

Notebook, N-03-03-14

W.A.R. 1418.

Try sl. alone; Pb, + Hg, with Na-salt. Try $C_{16}H_{30}O_{32}$ with K-salt.
Try Cathell No.

Try mixing in diff. proportions.
Try " " " " " " " "

(Aplt. ~~non-to~~ opaque)

Na-stearate hard; sol. in CH_3CH_3, $(CH_3)_2CO$ (!), C_6H_6OH;
from latter two transparent. To soften it, I tried to prepare non-crystalline transparent mixtures with K-salt.
The latter obtained pure by titration (not carbonate). It crystallizes with much greater readiness than Na-salt. Mixed acetone solutions of Na-salt + K-salt in different proportions: on cooling all crystallize. Tried mixtures of alcohol & acetone as solvents: same result.
Tried adding various proportions of glycerine to acetone solutions; same result. Tried adding oil; same result. ∴ K salt alone or with Na-salt unsuitable.
Na & K salts insol. in oils. Mixtures rough under micros. Fatty acids probably soluble in fats.
Stearic & oleic look rough.
Na-oleate alone (oleic glass, not fan-like crystals)
Na-stearate + oleate may work.
Examined lead oleate: with alcohol, CS_2, acetone, ether, aldehyde, carbon disulphide, + by destructive distillation: negative results.
Saponified: 1 lb. castor oil by stirring with strong NaOH + later dilution + salting out. Soap [illegible] (Tried to make it with small quantity of oil, but failed, perhaps because mechanical mixer [illegible]) Separated [illegible] of latter. Boiled [illegible] KOH, first strong, then diluted with H_2O, decomp. ~~[illegible]~~ Boiling sol. with

List of the preparations.

1. Натрій смеси̂ръ обыкнов. Не могъ быть в (in alcohol solution)
2. Сурьемный хлоръ на ртутномъ спирту.
3. Тальковое мыло сушенное дистиллированной со спиртомъ и растворенное въ алкоголѣ съ небольшимъ количествомъ спиртнаго уксуса. Тальковое мыло и воскъ (?)
4. То-же съ небольшимъ количествомъ спиртнаго уксуса. Минералъ говоритъ отлично.
5. То-же; очень мало с.-у., но порядочное количество смеси̂ра. Минералъ говоритъ не стоитъ производить, но я думаю, что можно 'исправить' натуру.
6. Калій сѣрнистый — перекрѣпкій. Растворить по-возможности в алкоголѣ; раствор. крѣпкій, мало что масса испарится. К небольшому количеству масла прибавить с.-у.; раствор. горячій раствор при объемъ, перегрѣвать и послѣ испаренія с.-у. — испарить. То-же съ другимъ растворителемъ.
7. Натрій смеси̂ръ без алкоголя, одинаковый порошокъ.
8. Натрій сѣрнистый из алкоголя (Кадмиумъ) Не растворяется. Остается в алкоголѣ.

HCl (about 10.); on cooling, separates the solid acid & treated with both, H_2O; on cooling, dried the acid by pressure and tried purify by distilling in vacuo (Krafft) lost about 3 days on this purification. Acid was insoluble (foaming, acid evolved) impurity inseparable by alcohol, ether, carbon disulphide, benzol, acid; by the improvement with bombsulph. (by partial sp. decomp. in presence of impurities) undertaken. Impurities: Mg. myrtle wax with H from KOH. Results no good: ~~after~~ alkali salts ~~not~~ very incompletely soluble in H_2O or alcohol. HCl does not completely decompose them. Examined myrtle wax: it is no good, completely soluble (4/5 ought to be) in alcohol, &c.

When spoiled by again.

Z works excellent under knife. Shrinks.

X too shrunk.

Below too shrunk

Addition of some NaOH to other gives transparent sol. Small sample slide dying.

Fried NaOH with Z: when quant. of NaOH is small, some improvement in transp. when greater — separation into two layers; Remarkable fluorescence in this & several other cases. (See next ~~page~~ Cap. about Z). Not worth while trying further.

9. Углеводородъ, одинаковый при высокой [illegible]. Очень мало и непрочно, бер. [illegible] и хлороформ. Только [illegible] [illegible]

10. Лишний опытъ.

11. Z. Тамъ же, потомъ и нѣсколько натрія. Бер. [illegible] или хлороформ.

V. Потомъ и натрій, тамъ же и Kohl-t. [illegible] [illegible]

[illegible] Тамъ же и натрій. Бер. [illegible] или хлороф.

T. Тамъ же и [illegible] [illegible]. Бер. [illegible] или хлороф.

Y. Рабочій [illegible] [illegible] и натрій. [illegible]

Examined commercial palmitic acid; dist. in vacuo, separated into 3 portions; 1 black left behind; the liquid (!) with NaOH – Kamp. strap, very Red; 3 solid (!) with KOH jelly-like mass. (Kamp). Experiment abandoned as unreliable on account of impurity of commercial product. But K-Kember transparency.

Z does not dissolve in usual amt of 90% alcohol. Solution perfect, opaque on cooling + some liquid (!) remains free, as it is chemical excess (see formula, Cerp about [illegible]). [illegible] cylinder, [illegible] before solidify; result no good. [illegible] K – ~~[illegible]~~ undergeneration

" Na

Na – Heated with my soap-alcohol – transparent but hard (on dry).

~~[illegible]~~

Palmitic acid

26 g. Japan wax saponified with ~~[illegible]~~ ~~[illegible]~~ 100 g. KOH (Merck sticks) and ~~[illegible]~~ 1 liter H_2O.

Dissolved 2g. K-palmitate (crude) in 8.7cc of my alcohol; on cooling, no ~~sepr~~ setting; ~~dissol~~ dissolved in this as much as possible Na-stearate (with smaller quantity – no setting); result: on cooling, soft, soapy, not so transparent mass. Put remainder the solvent capacity of K-palmitate. Sample still drying.

Na-stearate dissolved in my alcohol (filtered from residue); on setting, added little C.y., which re-dissolved the mass; left solution to evaporate; it set quite transparent but opalescent; still drying.

Examination by Miller Mar. 23 of boards made Mar. 14:

(a) G coated with double spectacle. Rough under micro.

(b) P + 10g – promising. Apr. 8 – dis?

(c) Z (thick sample cut down thin). Even better than following. Not slight improvement, ~~not so thin~~ 8 not too.

6 (d) Z (thin cast, unfiltered, slow cooling). Very promising, excellent cut, but not ~~quite~~ absolutely clear. Not tacky, not sticky.

6 (e) P. Promising. Not tacky, not sticky, excellent cut, much like Z. Not absolutely clear.

E (P) Z (Trimear, rapid cooling). Much worse than Z above (slow cooling).

All these put up in tin cans on Mar. 25.

[illegible] (except P, which had been [illegible] much longer).

Preparation of Sulphocarbanilide: purified commercial aniline, heated in proportion of 2 molecules of aniline to one of carbon disulphide (slight excess of latter) added &c. 95% alcohol & allowed to stand for a warm place. In two weeks the mass was completely solidified. It shows distinct crystalline structure which cannot be destroyed by heating with aniline. It chips & [illegible] entirely inappropriate for cylinders.

Prepared Li-stearate, on account of its being an amorphous substance. It does not melt, comes down from its solution as a powder (discuss this point with Mr. Edna!), & [illegible] inappropriate for cylinders.

Prepared Na-propionate, on account of its being an amorphous substance. It does not melt, comes down from its solution as a powder, and is by itself entirely inappropriate for cylinders.

Breaking the grain of plate, is well worth investigating. So far poor results on account roughness of surface; but systematic work may lead to interesting results.

Perhaps the same about other acids.

(g) Examined by Miller on Mar. 26 of sample X + $\frac{X}{5}$ 2, delivered Mar 18. Result (pale cinnamon Cut, perfectly smooth, not sticky, excellent, easy cut, very slightly damp, somewhat damp, but this is harmless). Must for the future is excellent, requires careful opening; but this is impossible on account of Blow-holes & foreign material.

(h) X + $\frac{X}{5}$ 2. Additional list: ~~g~~ is worse if was alcohol, filtered, distilled water, made, cast March 29. Apr. 14 - little change for a week after excellent.

(i) same as (h). Mar. 29. Apr. 8 - dec.

(j) X + $\frac{x}{5}$ 2 (filtered), old alc. Mar 26. Apr. 8 dec.

(k) X + $\frac{x}{5}$ 2 (unf), old alc. Mar 19. Apr. 8 dec. & very sticky

6 (l) X + 02 (unf) Mar 18

(m) Z + 1.5 2 (unf), Mar 19, set to dry long

E (12) X + $\frac{x}{10}$ r. $\frac{H.B.}{2}$ Mar. 16

NB. Chiapas cocoach dropped collodium on 2. in Nipponica obtained negatives on 2 or 3.

E (0) H.C. (9) + K.C. (1) + r. (2), Mar. 30 (felt + excess of new alc. distilled off). Examined by Miller Apr. 1. Result: Cuticle smooth, but has very fine longitudinal lines and chips: Miller thinks it would do (only when cut very deep). Apr. 8 Much dec.

(0) H.C. (5) + H.O. (5) + r. (2), new alc.; felt, distilled off excess. Mar. 30, swore champaine. Record May 20

Attached

E (9) H.C. + $\frac{r}{2}$, felt, but possibly contains chips of old. comp. Mar. 31. (which cracked). Apr. 3 formed much r. forming a deep on the surface. Apr. 8 much more dec.

E (2) H.C. + $\frac{r}{2}$ + excess of 90% alc., filtered, distilled, then cast highly sol. in jacketed moulds Apr. 2. Mr. C. Pierce, May 2 Apr. 8 much dec.

(s) Na-naphthol. (25g. + 50 cc. photog. ale.; distilled off 20 cc., but was compelled to add again 10 cc. of photog. ale.), cast in two moulds. Apr. 2. Apr. 3 G. brought Bro. Apr. 8, on scraping off surface & think excellent.

(t) P (15g.) + 2 (5g.) + 56 cc. old ale.; filters, distilled off 18 cc. Apr. 2.

(u) Na-undecylenate (15g.) + photog. ale. (56 cc.) + water (5 cc.); necessary to distill off lower of the alcohol. ~~[illegible]~~ Apr. 4

Prep. of pure myristic acid: 500g. of mutton of Potter supplied with leaflet.

(See p. 1 letter)

Prep. of pure lauric acid: dil. of Bay vapour in water followed with caustic potash by boiling for several hours, first with reflux condenser, then in open dish; resulting mass decomposed by HCl ~~[illegible]~~

(u) Z (2 g.) + r. (5 g.) + old ale (44 cc.), distilled off [illegible] 1/ of [illegible] Apr. 4.
Not [illegible] 4 days.

(v) Na-palmitate (N g.) + old ale (56.4 cc.)
Cast solidly, Apr. 5.

(w) H.C. (20 g.) + H_2O_2 + old ale. (150 cc.), filtered, distilled on 70 cc., cast, Apr. 6
Found cracked in the morning Apr. 6.

(y) H.C. + H_2O_2, mixture — cast without and afterwards filtered [illegible] many, Apr. 6; [illegible] not come off the mould [illegible].

(z) H.C. + $\frac{H.O.}{10}$ + $\frac{H.C.}{2}$ r. Cracks.

(z') H.C. + $\frac{H.C}{2}$ r. Cracks.

(z'') H.C. + H_2O_2 r. Sticks to [illegible] mould.

(z''') To repeat (h): X (100 g.) + $\frac{X}{5}$ r. + 70 cc. old ale (1 l. flask filled up); filtered cold, distilled, losing about 70 cc. of solution in beginning, then distilled [illegible] 470 cc. + citric acid. Apr. 13 [illegible] mould. Should [illegible] as that it was impossible to make a trial. Apr. 24 still [illegible] tough.

(a^{VII}) $X + X_2. + 500$ ~~cm~~ cc. phot. alc. + 60 cc. H_2O, filtered, distilled off 400 cc. (?) in salt bath, cast two Apr. 15. in small moulds. Shrunk down ~~so that it was impossible to make a trial~~. Apr. 24 ~~[illegible]~~ rough.

(a^{V}) $X + \frac{X}{2}2. + 560$ cc. 95 alc. + 300 cc. abs., filtered, distilled off 400 cc., cast in large moulds Apr. 26. Very little [illegible] of it [illegible] taken [illegible]

(a^{VI}) $X + X$ H.C. $+ \frac{X}{5}2. + \frac{X}{2}2. +$ cc. phot. alc. + cc. H_2O; filtered distilled off cc., cast in large moulds Apr. —

New Series

(a^{VIII}) Nuking butter twice extracted with boiling alcohol. Residue dried at room temp., filtered molten. Result: white, smooth, hard mass, non-homogeneous with glycerin + olive oil. Small amt. softened by alcoholic extract. Result rough. What can be tried further?

Monostearin:

1. Stearic acid (~~40g.~~ 30g.) heated 50-hours with ~~40g.~~ glycerin (40g.), at 235° C. (see further)

2. St. acid (30g) heated with glycerin (30g) 50 hours at 235 °C. (see further)

3. St. acid (30g.) heated with glycerin (30g.) - 3 hours at 235°

Mannitanstearate

4. Stearic acid (30g) heated with mannite (20g.) 36 hours at 220°C

Ethyl stearate

Stearic acid (30g.) heated with absolute alcohol (excess) 48 hours at 220 °C. The preparation lost by accident.

Abietic acid with lithia gives brittle & amorphous mass (on fusing) chips out with the knife & is hard. ∴ no good

45
90
405 Y01

(1) and (2) of preceding page heated (without previous solification, except separation of glycerin) with molecular quantity of stearic acid to 180–200° C. in retort & when one mol. H_2O had passed over the liquid in the retort was cast in the form of a cylinder. The substance (impure di-stearin) was very rough under the microscope & Miller thought it was not worth while making a trial. The cylinder is marked "Di-stearin".

To repeat (b):

2 parts: $X + \frac{X}{5}$ r. + 4 X nitro ale. (i.e. 1000 + 25), filtered, distilled off 1/9 X ale., cast in large moulds.
May 7.

Modified (b):

$X + \frac{X}{5}\pi.C. + \frac{X}{5}$ r. + 4 X nitro ale., filtered, distilled off 1/9 X ale., cast in large moulds.
May 18.

nitrap. $+ \frac{15}{100}$ cm. kric. — Rough under micro., soundness rough.

n rap. + .15 cm. kric. + .15 cm. O.C. Di under micro. better [illegible] reading, [illegible] sticky. Soundness rough.

Lips + small and fine worth transp. [illegible] soundness [illegible]

May always with [illegible] to [illegible] [illegible]
begin [illegible] [illegible].
From [illegible], [illegible], [illegible]
[illegible] [illegible] [illegible] out. [illegible] - no food

Кларкія [illegible]:

1. Кларкія [illegible] (5) + [illegible] (1) – [illegible].
2. Кларкія [illegible] – [illegible].
3. [illegible] (5) + [illegible] (5) – [illegible].
4. Кларкія [illegible] (1) + [illegible] (5) – [illegible]
? [illegible] ?
5. Кларкія [illegible] – [illegible].
6. Кларкія [illegible] (1) + [illegible] (1) [illegible] ([illegible]).
? [illegible] ?
7. Кларкія – [illegible], [illegible].
8. Кларкія [illegible] – [illegible] (m.7) [illegible].
9. Myrtle Way + Camania 5:2, pretty soft [illegible]. Harden with gum + cast.
10. Bess + Corn 1:1, cracked
11. " " " 2:1, cracked

12. Na-isobutyr + Car 2:5, foam, decompos, cracked. Very hard, pretty good surface

13. CuSO + Car 5:2, good surface, cracked

14. Ail + Car 2:5, irregular contraction, cracked

15. CuSO + Car 1:1, badly cracked

16. Car + Ail soy (20%) 5:2, irregular contraction, cracked

17 Crude Na-ricin + Car 2:5 cracked

18 FeSO + Car 2:5 cracked

19 Car + White cryst wax 5:2 cracked pretty good surface

20 Nabutyr + Car 2:5 cracked (foam decomp)

Mr. Edison's Comments.

29. Loud, quality good, scratchy, bad, cut bad, breaks out, no polish

21. Monosh + Car 1:1. Much like old comp. Cracked. Good surface.

22 Carn + Myrtle wax 5:2 N.G.

23. Dam + Car 2:5 Cracked

24. Myrtle wax + Car 2:5 Cracked

25. Ari-Cerin + Car 2:5 Cracked. Pretty good surface

26 Car + White Crystal wax 2:5 Just cracked; soft.

27 Nabl + Carl + ~~Oo~~ ~~Wh~~ Crystal. hard. N.G.

? 28. Mammoth tetrastearate

? 29 Car + White Crystal Wax 1:1

? 30. Car + Crude Na-rein (Gum)

Mr. Edison's comments:

33. Rather rough. Quality fair, not loud, cut not smooth. Squeak

34. Very loud when tracked lighter. If tracked deep, too rough and greatly boxy

35. Too rough for use

36. Not very loud, rough

35. Loud, no swell, fairly smooth

39. When tracked lighter, quality fine. Cut little rough. Dry on poor material. J.

40. Smooth cut, fairly loud, quality fair. Tends only to chatter.

41. Cut too rough

30. Myrtle wax + Car 1:1 Cracked

? 31. Car + Na-vicin 5:2

? 32. Dam + Car 5:2

? 33 Ail + Car 5:2

? 34. Car + Na-St 1:1

? 35 " + Dam 1:1

? 36 " + Spm 5:1

? 37 " + " 20:1

? 38 Ail + Sp 20:1

? 39 Car + Sp 10:1

? 40 Ail + Sp 10:1 Trip again, feels My opinion — no g.

? 41 Old Amp + Car 1:1

Mr. Edison's Comments.

42. N. G.

43. Rough cut, not cond, no improvement.

? 42 Ad soy

? 43 Car + Ad soy 2:5

? 44 Car + Sp 5:2

45. Car + Cinde w'cin 1:1, hard, does not crack, but difficult cast on account of foam

? 46. Myrtle soap + Car 1:1

47. Two more casts, at Mr. Edison's request, of (46)

48. Car. Cut out

49. Jonds (? Jadmit) + Car 1:1

No. 11. Good, very little scratch, although record rough. If this could be got rid of it would be very good.

2. Very scratchy, many tracks deep, little pimpy, [illegible] No. 9. Good; chipped out [illegible] scratches.

[Add something to reflect the high temp.]

No. 14. No chip, polishes without alum, but [illegible] scratch [when deep, is jagged].

Good, not chipped. Repeat.

15R. Badly chipped Sept. 20, '03

14 Chipped

New Series. July, 1900

No. 1 Sn 8.

No. 2 " 8.5 no holes.

No. 3 " 8.6 incomplete

No. 4 "

5. Sn left 4%

6. $Cu + x$ 10:3

$Sn + Pb$ 20:1

8.

9. SnS (from ale. and contain, Cu, Pb, Fe) (75g.) + Pb_3S_4 + S (3:1) (45g.) + Pb_3S (20g.)

10. $Cu + CuS$ (5:2)

11. 284g. Z + 71g. $PbCl_2$ (lost) + 150g. [illegible]

15. (11) 50g + $CuCl_2$ 20g.

13. (11) 50g + $PbCl_2$ 10g

14. (11) 30g + $FeCl_3$ 6g

~~15 (11) 60g + [illegible] 6g~~

16. Res. of 15 (5–10g.) + 50g (11) + 20g. Cu + 5g. Cu

17. Chips at 0°. temp. At 125° good tone but scratches, + not as bad as (16).

20. " " " "

19. " Bath " " " Quali good. At 125° F. stick chipping out.

15. Same as (19). At 125° still chipping.

18. Can only be taken at 0° temp. Good, slightly too draggy.

~~17~~ 16. 0°. temp. Good, chips out. At 125° good. No scratch + amount to anything. Tracks deep, yet does not chip but jumps out. To be reproduced ~~and~~ tried at 120° with still deeper tracking, to prevent jumping out.

20. At 125°. Good; not quite so good as 16R. Not jumped out so much as 16R.

AR. Too deep (Sept 20 '03)

BR. Too hard (" ")

21R. Too hard (Sep 20, '03).

17. (11) + Cer. 20:1

18. (11) + mod. Cer. 5:2. The mod. Cer. is Cer + x 5:2.

19. 42g. (11) + 42g. Cer. + 4g. Cer.

20. (9) + 5% Cer.

New Series, + repeat (16). Aug.

A. 426g. S + 40g. Na_2CO_3 + 71g. $PbCO_3$ (Bro. Brick) hold up

B. 426g. S + 32g. Na_2CO_3 + 71g. $PbCO_3$ (Burnside 15)

D_1 426g. S + 34g. Na_2CO_3 + 71g. $PbCO_3$

D_2 852g. S + 68g. Na_2CO_3 + 142g. $PbCO_3$ etc. Same as D_1, yet track a little better + very much like (11)

To repeat (16):

AR. 150g. (A) + 60g. Cer. + 12g. Cer.

BR. " (B) + " + "

DR. " (D_1) + " + "

also:

21. 150g. (D_1) + 60g. Cer.

22. Crystallized, blow-hole.
25. Crystallized. 24R too low (Sep 20, '03).
28. Crystallized
24R. too low (Sep 20, '03)
26 Horribly chipped

27. Chips, too low

29. Too low

crystallized?

22. 100g. (D_2) + 40g. car + 4g. cer.
23. 100g. (D_2) + 40g. car. + 14g. mod. car (with some cerium) (30)
24. 100g (D_2) + 40g. car. + 8g. cer.
25. 100g (D_2) + 40g. car. + 9g. cer (60)
26. 100g. (D_2) + 40g. car. + 28g. mod. car (35)
~~27. Same as (D)~~
27. 100g. (11_1) + 40g. car. + 10g. cer.
28. 100g (11_1) + 40g car. + 9g. cer
29. ~~130~~ 240g (11_1) + 18g. mod. car. (contrast spots) (85)

~~To repeat (11)~~
~~453g B + 7kg~~
F. (423g B + 59g PbO + 25.3g Na_2CO_3)
low heat. Product crystallized

1136 − 70
426 − 2

426
73
1278
2982
31098
3278
426

= 27.4

30. A little too hot

1136
426
710
284
2840
4260
80574
80994 = 70.9

1136
142
1278
2982
4260
106704
120696 = 40

852
284
1136

142
47
189

30. Nonvitreous, chippy – N.G.

33. Chips

34. Fine, pinning

G = 1136 S̄ + 189 PbCO₃ + 73 Na₂CO₃
(= 426 S̄ + 70.9 PbCO₃ + 27.4 Na₂CO₃)

35. Chips

E.R. 568g S̄ + 125g L + ~~[illegible]~~

30. E.R. (75g) + Cu (75g) + Cu (24g)
heated, then adds Na₂CO₃ (5g).

31. F (100g) + Cu (100g) + Cu (30g),
heated 10 hr. Shut, but the Cu seems to be all at bottom of lid.

32. (11½) 100g + Cu (40g) + Cu (15g)

33 (11½) 100g + Cu (40g) + Cu (20g)

34 11½ (100g) + Cu (40g) + Cu (10g)

G 852 S̄ + 142 PbCO₃ + 68 Na₂CO₃
+ (284 S̄ + 47 PbCO₃)
+ 5g Na₂CO₃

35. G (150g).

36 R. Too hard (Sep 20, '03)
37 R. Too hard (Sept 20, '03)

38 R. Too hard (Sep 20, '03); Crypy

39. Horribly chipped

41 Big ball OK. May be something in it.

42. Too hard (Sept 20, '03)

43. Look too hard

36. 150 g G + 150 g Cu (10%)

37 125 G + 30 Cu (16 2/3)

38 125 G + 30 Cu

39 100 G + 30 Cu (30 1/3)

40 100 G + 40 Cu (40%)

41. 50 G + 20 Mg O

42 G (~~130~~ 120) + Cu (6.0) (5%)

43. G (~~130~~ 120) + Cu (12) (10%)

44. ~~G (~~ G (~~170~~ 110) + Cu (~~15~~ 16.5) (15%)

45 G (100) + Cu (40) + Cu (10)

46 Too hard

H. 27g. $\bar{S}$ + 38g $PbCO_3$ + 18g K_2CO_3 (Bad brick)

46. 100g(H) + 40g(Cu) + 10g(Cu)

~~47. 100g(H) +~~

47. 50g(H) + 20g(Cu)

48. 60g(H) + 10g(Cu)

49. Rough grown, [illegible], scratches only little
more than pitch blende

50 Horribly chipped, yet big bell size [illegible]

I. $\bar{S}(200) + \bar{O}(100) + PbO(126)$
(crack not in [illegible])

49. $I(150) + \bar{S}(8) + \bar{O}(4)$

50. $I(150g)$

J. $\bar{S}(200g) + \bar{O}(50) + PbO(105g)$

K. $\bar{S}(200) + \bar{O}(100) + PbO(113.5)$

51. $K(150g)$

K white ppt. with Cu, or Cu + Cu. ng.

L. $\bar{S}(200) + \bar{O}(100) + PbO(94.5)$

ng.

52R. Too hard (Exp 20)

53. Jumps, rather hard, good surface, scratches
Made more than regular crackle.

54. Fairly smooth surface than regular.

55R. Too hard (Exp 20)

56R. Something in it, crackles, scratches about same as reg. white, possibly less.

57. Too hard, jumps out.

58. Horribly chippy

59 # " "

61R. Too hard (Exp 20).

52.	120g (11)	+ 6g (Cu)	
53.	120g (11)	+ 12g (bar)	
54.	110g (11)	+ 16.5g (Car)	
55	120g (11)	+ 8.5g (Cu)	
56	120g (11)	+ 9.5 (Cu)	
57	150g (11)	+ 15g (Car)	
58	125g (11)	+ 20g (Car)	
59	125g (11)	+ 30g (Car)	
60	100g (11)	+ 30g (Car)	
61	75g (11)	+ 20g (Car)	+ 10 (Bess)
62	~~[illegible]~~		

PbO_2 + 25 (from litharge)

M: 170 ($\bar{S}$) + 37.5 (PbO_2) + 35.5 (MnO_2) + 20 (Bess)

7

66. Trace hazy (Sept 20)

67. Trace cloudy, but more than 66, much more than 69.

68. Cloudy, but more than 67, much more than 69. (Cu) (Sept. 20)

69. Cloudy, but more than 68, much more than 70.

70. Little cloudy, but more than white, no change, [illegible] (Sept 20)

71. Cryst. slightly (Sept 20)

72. Crystalline, N.G.

73. Little than white but yellow (Sensitive little more than 74) (Sept 20)

74. Smooth and white, no [illegible] (Sensitive more than 73) (Sept 20)

Cast in [illegible] 75 F.F No 1., No. 2, No 3., filtered twice through cloth, once through filter paper. (Sensitive more than 75 No 5)

75 F No 4, No 5 filtered twice through cloth, once through filter paper, once through bamboo paper. 75 No. 5 too hard

76 Crypt.

77 Crypt. $L = 100\bar{5} + 4.3\,\bar{b}_{74}$

78 "

79 "

80. Crypt.

81 Crypt.

82 Crypt.

83 "

63) 150 g (K) + 15 g. (Cu) bracked

64) 125 g (K) + 20 g (Cu) "

65) 125 g (K) + 30 g (Cu) "

66 150 g (S)

67 120 g (L) + 6 g. (Cu)

68 120 g (L) + 12 g. (Cu)

69 120 g (S) + 16.5 g (Cu) slightly bracketed

70 125 g (11) + 12 g (L)

71 125 g (11) + 25 g (L)

72 100 g (11) + 40 g (L)

73 (100 g) acc. Pb. St (from Lit) + 1.4 $\bar{b}_{74}$

74 (100 g) " " " +1.8 "

75 (100 g) " " + 0.5 "

B73 (130 g) " " +1.3 "

76 37.5 g (11) + 30 g (L)

77 37.5 g (11) + 37.5 g (L)

78 25 g (11) + 50 g (L)

79 12.5 g (11) + 62.5 g (L)

80 62.5 g (11) + 6 g (L) + 7 g (Cu)

81 62.5 g (11) + 12.5 g (L) + 7.5 g (Cu)

82 62.5 g (11) + 20 g (L) + 7 g (Cu)

83 37.5 g (11) + 30 g (L) + 7 g (Cu)

84. Cryst

85

86. Cryst

87. [illegible]

88. [illegible] pimples out, n.g. Chipy (Sept. 20)

90. [illegible]

91. [illegible]

92. [illegible]

93. [illegible] pimples out, n.g.

94. Cryst.

$N = 500\ \bar{5} + 250\ PbCl_2$

96. [illegible]

97. Repeat. Smooth green, pimples not, warts numb as fast as n.g. Mottled (Sept. 20)

98. Chip out, n.g.

100 Cryst.

101. Repeat. No pimp, no chip, but big ball chip not bad, scratch more than n.g. Sept. 20.

103. N.G.

104. Repeat.

105. Not bad; can trench deep. Fair, scratch theb more than n.g. Good. (Sept. 20)

106. N.G.

84	37.5 g (N)	37.5 g (L)	+ 7.5 (Cer)
85	25 g (N)	50 g (L)	+ 7.5 (Cer)
86	12.5 g (N)	62.5 g (L)	+ 7.5 (Cer)
87	62.5 g (N)	6 g (L)	
88	62.5 g (N)	12.5 g (L)	
89	50 g (N)	20 g (L)	
90	37.5 g (N)	30 g (L)	
91	37.5 g (N)	37.5 g (L)	
92	25 g (N)	50 g (L)	
93	12.5 g (N)	62.5 g (L)	
94	62.5 g (N)	6 g (L)	7 g (Cer)
95	62.5 g (N)	12.5 g (L)	7.5 g (Cer)
96	62.5 g (N)	20 g (L)	7 g (Cer)
97	37.5 g (N)	30 g (L)	7 g (Cer)
98	37.5 g (N)	37.5 g (L)	7.5 g (Cer)
99	25 g (N)	50 g (L)	7.5 g (Cer)
100	12.5 g (N)	62.5 g (L)	7.5 g (Cer)
101	5 (?)	+ $PbCl_2$ (?)	(gray)
102	(101)	+ Cer (50%)	
103	"	" 10	
104	"	" 15	
105	"	" 20	
106	"	" 25	

5.5.1 5.5.1

107. N. G.
$O = (4\bar{S} + 1\,PbCO_3) + 1\frac{1}{2}\,Lit$
108. Something in it (Sep 20 '03)
110. Appears smooth as obj. is forming out
111 Very fine something in it

113. Filtered twice through cloth, once through f.p., twice through
brownish powder; mixed quite hot, liquid 140°

114 Tracks light, grey out.
115 Big bell of tracks very deep, maybe
some sulphur then sq. white, no chip, some
116. too low, scratches little more than sq.

107 $S(50) + LiOH(.5) + Cer(5)$
108. $60g\,(O) + 3g$ (Cer)
109. $60g\,(O) + 6g$ (Cer)
110. $50g\,(O) + 7.5g$ (Cer)
111 $50g\,(O) + 10g$ (Cer)
112 $50g\,(O) + 12.5g$ (Cer)
113. $100\bar{S} + 2\,Lit$

NAOOS ABOVE

$P = 500\bar{S} + 12.5\,PbCl_2$
$Q = 568\bar{S} + 133.5\,PbCl_2$
$R = 568\bar{S} + 100\,PbCl_2$
$S = 500\bar{S} + 62.5\,PbCl_2$
$T = 500\bar{S} + 98\,PbCO_3$
$U = 500\bar{S} + 30\,PbCO_3$

114 P.
115 P(70) + Cer(3.5)
116 P(70) + Cer(7)
117 P(70) + Cer(14)

$PL = 240P + 1.2\,Lit$

118 PL(70) + Cer(3.5)
119 PL(70) + Cer(7)
120 PL(70) + Cer(14)

121. Waves coarser than xy. Jumps
122 N.G.
123. N.G., tears

124 Notches wave marks finer, light track, jumps
125 Jumps, Rougher grooves than xy -
126. Rough grooves; jumps out.
127. Rougher than xy., jumps, is hilly & tracks lighter than xy -
128. N.G.
129. Wave marks as fine as xy, tracks lighter, jumps
130 Crystl. Grooves rougher than xy. xy & lighter jumps

132. Waves not so smooth as xy., jumps out.
133. Grooves rougher than xy., not jumped out; Fine tracks deeper
135. No jumps, no chips, on xy. & jumping tracks lighter than xy
134. Crystallize

121 Q (70g) + Cer (3.5g)
122 Q (70g) + Cer (7g)
123 Q (70g) + Cer (14g)

Q.L. = 300 Q + 15 L.

124 Q.L. (70g) + Cer (3.5g)
125 " (70g) + " (7g)
126 " (70g) + " (14g)
127 Q.L. alone

128 R. alone
129 R (70g) + Cer (3.5g)
130 R (70g) + " (7g)
131 R (70g) + " (14g)

R.L = 300 R + 1.5 L.

132 R.L (70g) + Cer (3.5g)
133 " (70g) + " (7g)
134 " (70g) + " (14g)
135 R.L alone

136. Reg + 1% X.
137 " + 2% X
138 " + 5% X
139 " +10% X
140 S alone
141 S (70g) + Cer (3.5g)
142 S (70g) + Cer (7g)
143 S (70g) + Cer (14g)
S.L. = (2.25g) S + L (1.1g)
144 S.L. (70g) Cer (7g)
145 S.L. (70g) Cer (14g)
146 S.L. (70g)

147 T alone
148 T (70g) + Cer. (3.5g)
149 T (70g) + Cer. (7g)
150 T (70g) + Cer (14g)
T.L. = (2.70g) T + (1.4g) L.
151 T.L. (70g) + Cer (3.5g)
152 T.L. (70g) + Cer (7g)
153 T.L. (70g) + Cer (14g)
154 T.L. alone

U = 515

Myr + Pbl$_2$ (25 + 10$_g$) — N.G (induction?)

[illegible] + [illegible] N.G.

159 bracketed N. G.

155 – U (70$_g$) + Hlan (28$_g$)
156 U (70$_g$) + Bus (28$_g$)
157 U (70$_g$) + Myr (28$_g$)
158 U (40$_g$) + W Car (40$_g$)
159 U (70$_g$) + Cor (7$_g$)
160 U (50$_g$) + L (4$_g$) + W Car (30$_g$)

I	426 $\bar{S}$ +	60 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$	—			
II	426 $\bar{S}$ +	50 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$				
III	426 $\bar{S}$ +	40 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$		NG-comp.		
IV	426 $\bar{S}$ +	30 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$				
V	426 $\bar{S}$ +	20 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$	—			
VI	426 $\bar{S}$ +	10 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$				
VII	426 $\bar{S}$ +	70 $\overset{+}{Pb}$ +	20 $\overset{+}{Na}$				
VIII	426 $\bar{S}$ +	70 $\overset{+}{Pb}$ +	15 $\overset{+}{Na}$		NG-compl.		
IX	426 $\bar{S}$ +	70 $\overset{+}{Pb}$ +	10 $\overset{+}{Na}$				
X	426 $\bar{S}$ +	70 $\overset{+}{Pb}$ +	5 Na	—			

161 75 (I)
162 70 (I) + 3.5 Cu
163 70 (I) + 7 Cu
164 70 (I) + 14 Cu
165 70 (I) + 7 Pbs
166 70 (I) + 14 Pbs

167 70(V)
168 70(V) + 3.5 Cu
169 70(V) + 7 Cu
170 70(V) + 14 Cu
171 70(V) + 7 Pbcu
172 70(V) + 14 Pbcu
173 70(Σ)
174 70(Σ) + 3.5 Cu
175 70(Σ) + 7 Cu
176 70(Σ) + 14 Cu
177 70(Σ) + 7 Pbcu
178 70(Σ) + 14 Pbcu
✓179 56 Σ + 5.3 Pb (4%)
✓180 100(η 179) + 1(Pb)
✓181 100(η 179) + 3(Pb)
✓182 100(η 179) + 6(Pb)
✓183 [illegible]
✓184 100 Σ + 7(Pb)
✓185 100 Σ + 8.5(Pb) (not quite all Pb has up)
✓186 100 Σ + 8.5(Pb) (complete)
✓187 100 Σ + 12(Pb)

(XVII initially imp. of S - mg.)

XXI	758.8 $\bar{S}$	+ 310.5	$PtCO_3$	+ 11.7	K_2CO_3	
XXII	780.5 $\bar{S}$	+ 27	$PtCO_3$	+ 23.5	K_2CO_3	
XXIII	803.5 $\bar{S}$	+ 241.5	"	+ 35	"	
XXIV	826.5 $\bar{S}$	+ (207	"	+ 47	K_2CO_3)	
XXV	849.5	+ 172.5	"	+ 58.5	"	
XXVI	871.5	+ (138	"	+ 70	"	
XXVII	894.5 $\bar{S}$	+ (103.5	"	+ 82	"	
XXVIII	917.5 $\bar{S}$	+ 69	"	+ 93.5	"	
XXIX	940.5	+ (34.5	"	+ 105.5	")	
XXI	Nothing. All pretty bad	(XXI + 10% $\bar{S}$ best				
		called XXI A.				

XXIII (+10% $\bar{S}$), (+15% $\bar{S}$), (+20% $\bar{S}$) good, much better than XXIII above; XXIII + 10% $\bar{S}$ seems best, — called XXIII A.

XXIV (+10% $\bar{S}$) (+20% $\bar{S}$) (+30% $\bar{S}$) pretty good, (+20% $\bar{S}$) best, called XXIV A. (But except ??)

XXV (+20% $\bar{S}$) best; called XXV A. return in C.

XXVI (+10% $\bar{S}$ tolerable " XXVI A. " "

XXVII (+5% $\bar{S}$), (+10% $\bar{S}$) tolerably good, (+10% $\bar{S}$) much better, called XXVII A

XXVIII. All pretty poor. (XXVIII + 10% $\bar{S}$) best called XXVIII A.

XXIX. All pretty poor. XXIX used above.

XI	757.8 $\bar{S}$	+ 310.5	$PtCO_3$	+ 9	Na_2CO_3	
VII	780.6 $\bar{S}$	+ 276	"	+ 18	"	
XII	803.4 $\bar{S}$	+ 241.5	"	+ 27	"	
XIII	826.2 $\bar{S}$	+ 207	"	+ 36	"	
XIV	849 $\bar{S}$	+ 172.5	"	+ 45	"	
XVI	871.8 $\bar{S}$	+ 138	"	+ 54	"	
XVII	894.5 $\bar{S}$	+ 103.5	"	+ 63	"	
XVIII	917.4 $\bar{S}$	+ 69	"	+ 72	"	
XIX	940.2 $\bar{S}$	+ 34.5	"	+ 81	"	
XX	1704 $\bar{S}$	+ 159	N_2^+			
188	70 (XI)	+ S (3.5)				
189	70 (XI)	+ $\bar{S}$ (10)	(7)			
190	65 (XI)	+ $\bar{S}$ (10)	(11)			
191	70 (XI)	+ Cu (3.5)				
192	70 (XI)	+ Cu (7)				
193	65 (XI)	+ Cu (10.0)				
194	65 (XI)	+ Cu (6.5)	+ $\bar{S}$ (6.5)			
195	70 (XI)	+ Spu (7)				
196	65 (XI)	+ Spu (10)				
197	70 (XI)	+ Pres (7)				
198	70 (XI)	+ M.W. (7)				
199	70 (XI)	+ Chu (7)				
200	65 (XI)	+ Chu (10)				

201 70 (XII) + 3.5 (S)
202 70 (XII) + 7 (S)
203 65 (XII) + 11 (S)
204 70 (XII) + 3.5 (Cr)
205 70 (XII) + 7 (Cr)
206 65 (XII) + 10 (Cr)
207 [illegible] + 3.5 (Cr) 6.5 (S)
208 70 (XIII) + 7 [illegible]
209 65 (XIII) + 10 (Chrom)
210 70 (XIII) + 7 (Bus.)
211 70 (XII) + 7 [illegible]
212 70 (XII) + 7 [illegible]
213 65 (XII) + 10 (Chrom)
214 200 (S) + 14 (Cr) + 16.5 Mag (high mag.)
215 70 (XIII) + 3.5 (S)
216 70 (XIII) + 7 (S)
217 65 (XIII) + 11 (S)
218 70 (XIII) + 3.5 (Cr)
219 70 (XIII) + 7 (Cr)
220 65 (XIII) + 10 (Cr)
221 65 (XIII) + 6.5 (S) + 6.5 (Cr)
222 70 (XIII) + 7 (Chrom)
223 65 (XIII) + 10 (Chrom)
224 70 (XIII) + 7 (Bus)
225 70 (XIII) + 7 (M.W)

226 70 (XIII) + 7 (Cu)
227 65 (XIII) + 10 (Cu)
228 70 (XIV) + 3.5 (S)
229 70 (XIV) + 7 (S)
230 65 (XIV) + 11 (S)
231 70 (XIV) + 3.5 (Cu)
232 70 (XIV) + 7 (Cu)
233 65 (XIV) + 10 (Cu)
234 65 (XIV) + 6.5 (S) + 6.5 (Cu)
235 70 (XIV) + 7 (Spec)
236 65 (XIV) + 10 (Spec)
237 70 (XV) + 7 (Cu)
238 70 (XV) + 7 (M.W.)
239 70 (XV) + 7 (Cu)
240 65 (XV) + 10 (Cu)
241 70 (XV) + 3.5 (S) =
242 70 (XV) + 7 (S) =
243 65 (XV) + 11 (S) =
244 70 (XV) + 3.5 (Cu) =
245 70 (XV) + 7 (Cu) =
246 65 (XV) + 10 (Cu) =
247 65 (XV) + 6.5 (S) 6.5 (Cu) =
248 70 (XV) + 7 (Spec) =
249 65 (XV) + 10 (Spec) =
250 70 (XV) + 7 (Basis)

251 70 (XVI) + 7 (Mu.)
252 70 (XVI) + 7 (Cir.)
253 65 (XVI) + 10 (Cir.)
254 70 (XVI) + 3.5 (S)
255 70 (XVI) + 7 (S)
256 65 (XVI) + 11 (S)
257 70 (XVI) + 3.5 (Cir)
258 70 (XVI) + 7 (Cir)
259 65 (XVI) + 10 (Cir)
260 65 (XVI) + 6.5 (S) + 6.5 (Cir)
261 70 (XVI) + 7 (Figure)
262 65 (XVI) + 10 (Figure)
263 70 (XVI) + 7 (Bus)
264 70 (XVI) + 7 (Fig. Ma.)
265 70 (XVI) + 7 (Cir.)
266 65 (XVI) + 10 (Cir.)
267 70 (XIX) + 3.5 (S)
268 70 (XIX) + 7 (S)
269 65 (XIX) + 11 (S)
270 70 (XIX) + 3.5 (Cir)
271 70 (XIX) + 7 (Cir)
272 65 (XIX) + 10 (Cir)
273 65 (XIX) + 6.5 (S) + 6.5 (Cir)
274 70 (XIX) + 7 (Figure)
275 65 (XIX) + 10 (Figure)

276 70 IX

277 70 IX

278 70 IX 7

279 65 IX

280 70 (XXII) + 3.5 (S)

281 70 (XXII) + 7 (S) Chippy Blow Holes

282 65 (XXII) + 11 (S) Chippy Blow Holes

283 70 (XXII) + 3.5 (Cu) " " "

284 70 (XXII) + 7 (Cu) N.A. bryst.

285 65 (XXII) + 10 (Cu) N.A. bryst.

286 65 (XXII) + 6.5 (S) + 6.5 (Cu)

287 70 (XXII) + 7 (Spri) N.A. crystallized

288 65 (XXII) + 10 (Spri) Ditto

289 70 (XXII) + 7 (Beec)

290 70 (XXII) + 7 (Mg. Pl.)

291 70 (XXII) + 7 (Chun)

292 65 (XXII) + 10 (Chun)

~~293 70 (XXII) + 3.5 (S)~~ 293. 70 (XXII) + 7 (S)

~~294 70 (XXII) + 7 (S)~~

~~295 65 (XXII) + 11 (S)~~

A 294 70 (XXII) + 3.5 (Cu)

A 295 70 (XXII) + 7 (Cu)

A 296 65 (XXII) + 10 (Cu)

A 297 65 (XXII) + 6.5 (S) 6.5 (Cu)

A 298 70 (XXII) + 7 Spri

CloL. is coconut oil, lipoid; acids neutralized with pure KOH according to Allen ("magnesium for Kow"). [100 g acids + 5 g KOH].

(CO): 100 g acids from coconut oil, heated at 230°C losing 20 g. in weight.

~~298~~ 65 (XXIA) + 10 (Sper)
~~299~~ 70 (XXIA) + 7 (Bas)
~~300~~ 70 (XXIA) + 7 (Ol. Ric)
~~302~~ 70 (XXIA) + 7 (Lipoid)
~~303~~ 65 (XXIA) + 10 (Olive)
304 70 (XXIA) + 7 (S)
305 70 (XXIA) + 3.5 (Cer)
306 70 (XXIA) + 7 (Cer)
307 65 (XXIA) + 10 (Cer)
308 65 (XXIA) + 6.5 (S) + 6.5 (Cer)
309 70 (XXIA) + 7 (Lipoid)
310 65 (XXIA) + 10 (Sperm)
311 70 (XXIA) + 7 (Bas)
312 70 (XXIA) + 7 (Ol. Ol.)
313 70 (XXIA) + 7 (Lipoid)
314 65 (XXIA) + 10 (Olive)
315 1255 CloL + 10 (Cer) + 20 (11)
316 80 g (CO) + 40 g CloL (CO)
317 70 (XXIA) + 7 (S)
318 70 (XXIA) + 3.5 (Cer)
319 70 (XXIA) + 7 (Cer)
320 65 (XXIA) + 10 (Cer)
321 65 (XXIA) + 6.5 (Cer) + 6.5 (S)
322 70 (XXIA) + 7 (Sperm)
323 65 (XXIA) + 10 (Sperm)

~~324 70 (XXVA) + 7 (Bus)~~
~~325 70 (XXVA) + 7 (Ph. Pl.)~~
~~326 70 (XXVA) + 7 (Chim)~~
~~327 65 (XXVA) + 10 (Chim)~~
~~328~~
326 63.5 (XXIV) + 6.5 (5) + 7 (Chim)
327 59 (XXIV) + 6 (5) + 10 (Chim)
328 63.5 (XXIV) + 6.5 (5) + 7 (Cin)
~~329 59 (XXIV) + 6 (5) + 10 (Cin)~~
330 100.5 + 21 160 (Cer) + 1 (Chim)
331 (XXVA) 70 + 7 (5)
332 (XXVA) 70 + 3.5 (Cer)
333 (XXVA) 70 + 7 (Cer)
334 (XXVA) 65 + 10 (Cer)
335 (XXVA) 65 + 6.5 (Cer) + 5 (5)
336 (XXVA) 70 + 7 (Spun)
337 (XXVA) 65 + 10 (Spun)
338 (XXVA) 70 + 7 (Bus)
339 (XXVA) 70 + 7 (Ph. Pl.)
340 (XXVA) 70 + 7 (Chim)
341 (XXVA) 65 + 10 (Chim)
342 100 (acid from coconut oil, pressure of 1.8 at 160°) + 45 (160 cp.)

343 (XXVIA) 70 + (S) 7
344 (XXVI A) 70 (Cer) 3.5
345 (XXVI A) 70 + (Cer) 7
346 (XXVI A) 65 + (Cer) 10
347 (XXVI A) 65 + (Cer) 6.5 + (S) 6.5
348 (XXVI A) 70 + (Sferi) 7
349 (XXVI A) 65 + (Sferi) 10
350 (XXVI A) 70 + (Bero) 7
351 (XXVI A) 70 + (Ph. Pl.) 7
352 (XXVI A) 70 + (Chim) 7
353 (XXVI A) 65 + (Chim) 10
354 (XXVIIA) 70 + (S) 7
355 (XXVIIA) 70 + (Cer) 3.5
356 (XXVIIA) 70 + (Cer) 7.
357 (XXVIIA) 65 + (Cer) 10
358 (XXVIIA) 65 + (Cer) 6.5 + (S) 6.5
359 (XXVIIA) 70 + (Sferi) 7
360 (XXVIIA) 65 + (Sferi) 10
361 (XXVIIA) 70 + (Bero) 7
362 (XXVIIA) 70 + (Ph. Pl.) 7
363 (XXVIIA) 70 + (Chim) 7
364 (XXVIIA) 65 + (Chim) 10

365 (XXVIII A) 70 + (S̄) 7
366 (XXVIII A) 70 + (Cer) 3.5
367 (XXVIII A) 70 + (Cer) 7
368 (XXVIII A) 65 + (Cer) 10
369 (XXVIII A) 65 + (S̄) 6.5 + (Cer) 6.5
370 (XXVIII A) 70 + (Sferi) 7
371 (XXVIII A) 65 + (Sferi) 10
372 (XXVIII A) 70 + (Bus) 7
373 (XXVIII A) 70 + (Rh. Ph) 7
374 (XXVIII A) 70 + (Chim) 7
375 (XXVIII A) 65 + (Chim) 10
376 acids from cocoanut oil (80 g), heated at 150° + PBO cp. (32 g.)
377 German way, cool at 200 - 220 required.
378 (XXIX) 70 + (S̄) 7
379 (XXIX) 70 + (Cer) 3.5
380 (XXIX) 70 + (Cer) 7
381 (XXIX) 65 + (Cer) 10
382 (XXIX) 65 + (S̄) 6.5 + (Cer) 6.5
383 (XXIX) 70 + (Sferi) 7
384 (XXIX) 65 + (Sferi) 10
385 (XXIX) 70 + (Bus) 7
386 (XXIX) 70 + (Rh. Ph) 7
387 (XXIX) 70 + (Chim) 7
388 (XXIX) 65 + (Chim) 10

XXX	955 $\bar{S}$	+	74.5	Li	+ 34.5	Pb_3O_4
XXXI	930 $\bar{S}$	+	66	"	+ 69	"
XXXII	905.5 "	+	58	"	+ 103.5	"
XXXIII	881 "	+	50	"	+ 138	"
XXXIV	856 "	+	41.5	"	+ 172.5	"
XXXV	831 "	+	33	"	+ 207	"
XXXVI	806.5 "	+	25	"	+ 241.5	"
XXXVII	781.5 "	+	16.5	"	+ 276	"
XXXVIII	757 "	+	8.5	"	+ 310.5	"

Amt of $\bar{S}$ here with the above (B stands for base):

(a) $20B + 1\bar{S}$, (b) $18B + 2\bar{S}$, (c) $20B + 4\bar{S}$,
(d) $14B + 6\bar{S}$, (e) $12B + 8\bar{S}$, (f) $11.5B + 8.5\bar{S}$,
(g) $10B + 10\bar{S}$, (h) $8B + 12\bar{S}$, (i) $6B + 14\bar{S}$,
(j) $2B + 18\bar{S}$, (k) $1B + 20\bar{S}$.

XXX alone: structure pretty fine, cryst. in center. mp.

XXX a grain very fine, no crystallization on butter plate. mp.

XXX b. Grain not so fine as preceding, cryst. on butter plate. mp.

XXX c. N.G.

XXX d. N.G. Prolonged heating in Pelton plate causes no improvement.

XXX e. N.G.

XXX f. N.G.

XXX g. N.G.

XXX h. N.G.

XXX i. N.G.

XXX j. Uniform, smaller crystals than S, dry, & soft cut on chilled surface.

XXX k. Similar to preceding.

XXXI, alone. Grain quite good, mp.

XXXI a. Grain about same as preceding, but some cryst. in centre, mp.

XXXI b. Much crystallization, mp.

XXXI c. N.G.

XXXI d. N.G.

XXXI e. N.G.
XXXI f. N.G.
XXXI g. N.G.
XXXI h. N.G.
XXXI i. Almost uniform crystallization
XXXI j. Very cryst., smaller crystals
Better S.
XXXI K. Very similar to Preceding.

XXXII, alone. N.G.
XXXII a. Pretty bad crystallization, grain in chilled surface not very good
XXXII b. N.G.
XXXII c. N.G.
XXXII d. N.G.
XXXII e. N.G.
XXXII f. N.G.
XXXII g. Almost uniform cryst.
XXXII h. Similar to Preceding (Better.)
XXXII i. Still better

XXXII j. Uniform, crystalline
XXXII k. Same.

XXXIII alone. Excellent. Mp.
XXXIII a. Same. Mp.
" b Pretty good Mp.
" c Crypt. in centre. Good on bottom chilled surface.
" d N.G.
" e N.G.
" f N.G.
" g N.G.
" h Crypt., almost uniform.
" i Same.
" j Crypt. uniform.
" k Same.

XXXIV, alone: Rough grain. up

XXXIV a. Much better grain up.

" b Very good grain up.

" c ~~A. B.~~ Much cryst. up.

" d Much better no cryst.

" e Same.

" f Uniform, cryst?

" g " fine crystals

" h " larger "

" i Same

" j Same

" k Same

XXXV, above - Very rough grain

" a Slightly better, but crypt. in clusters

" b Very rough grain.

" c N. G

" d Very much better, very slight crypt.

" e Same; not crypt.

" f Same

" g Pretty good

" h. ~~Worse, Much worse~~

" i Much worse; crypt.

" j Unif. crypt.

" K Same.

XXXVI, alum: N. G.

" a Very rough grain

" b Rough grain

" c Somewhat better

" d Excellent grain

" e Good grain (striated)

" f Same

" g Same

" h Considerably striated

" i Rough grain

" j Uniformly cryst.

" k Same

XXXVII, above: Pretty rough grain

" a Somewhat better

" b Pretty good

" c A little better

" d Same

" e Quite good

" f Same

" g Striated

" h Rougher

" i Striated, but excellent in chilled part.

" j Chaph.

" K N. G.

XXXVIII, alone: N.G.

" a Same

" b Very Rough grain

" c Better

" d Still better, but striated

" e Rough

" f Same

" g Cryst. in centre, striated but pretty good in chilled parts

" h almost same

" i Striated, cryst. (chilled surface?)

" j Cryst.

" k Cryst.

389 (XXXa) 70
390 (XXXa) 70+ (Cer) 3.5
391 (XXXa) 70+ (Cer) 7
392 (XXXa) 65+ (Cer) 10
393 (XXXa) 65+ (Cer) 6.5+(S) 6.5
394 XXXa 70+ (Spiri) 7
395 XXXa 65+ (Spiri) 10
396 XXXa 70+ (Bus) 7
397 XXXa 70+ (M.&C.) 7
398 (XXXa) 70+ (Chim) 7
399 (XXXa) 65+ (Chim) 10
400 (XXXIa) 70
401 (XXXIa) 70+ (Cer) 3.5
402 (XXXIa) 70+ (Cer) 7
403 (XXXIa) 65+ (Cer) 10
404 (XXXIa) 65+ (Cer) 6.5+(S) 6.5
405 (XXXIa) 70+ (Spiri) 7
406 (XXXIa) 65+ (Spiri) 10
407 (XXXIa) 70+ (Bus) 7
408 (XXXIa) 70+ (M.&C.) 7
409 (XXXIa) 70+ (Chim) 7
410 (XXXIa) 65+ (Chim) 10
411 (XXXIa) 70+ (Sar) 7

~~412 (XXXII a) 70~~
~~413 (XXXII a) 70 + (Per) 3.5~~
~~414 (XXXII a) 70 + (Per) 7~~
~~415 (XXXII a) 65 + (Per) 10~~
~~416 (XXXII a) 65 + (Per) 6.5~~
~~417 (XXXII a) 70 + (Spri) 7~~
~~418 (XXXII a) 65 + (Spri) 10~~
~~419 (XXXII a) 70 + (Bus) 7~~
~~420 (XXXII a) 70 + (Op. Ch) 7~~
~~421 (XXXII a) 70 + (Chem) 7~~
~~422 (XXXII a) 65 + (Chem) 10~~
~~423 (XXXII a) 70 + (Car) 7~~

412 (XXXIII a) 70
413 (XXXIII a) 70 + Car 3.5
414 (XXXIII a) 70 + Car 7
415 (XXXIII a) 65 + Car 10
416 (XXXIII a) 65 + Car 6.5 + (5) 6.5
417 (XXXIII a) 70 + Spri 7
418 (XXXIII a) 65 + Spri 10
419 (XXXIII a) 70 + (Bus) 7
420 (XXXIII a) 70 + (Op. Ch) 7
421 (XXXIII a) 70 + (Chem) 7
422 (XXXIII a) 65 + (Chem) 10
423 (XXXIII a) 70 + (Car) 7

Base B_0 = 4500 B + 945 P.O.
" B_1 = 1mm B_0 + 5 Li OH
" B_2 = " " + 10 Li OH
" B_3 = " " + 9 Li O.St.
" B_4 = " " + 8 Li O.St.
" B_5 = " " + 8 Li O.St.

424	(B_0)	70		
425	(B_0)	70 +	1	ricinoleic acid
426	(B_0)	70 +	3	" "
427	(B_0)	70 +	1	par. oil
428	(B_0)	70 +	3	" "
429	(B_0)	70 +	1	pyridine
430	(B_0)	70 +	3	"
431	(B_0)	65 +	6.5	M. Of.
432	(B_0)	60 +	12	" "
433	(B_0)	50 +	20	" "
434	(B_0)	60 +	10	Ceres
435	(B_0)	63 +	7	Lauric Acid
436	(B_1)	70		
437	(B_1)	70 +	1	ricinoleic
438	(B_1)	70 +	3	"
439	(B_1)	70 +	1	par. oil
440	(B_1)	70 +	3	" "
441	(B_1)	70 +	1	pyridine
442	(B_1)	70 +	3	"
443	(B_1)	65 +	6.5	M. Of.
444	(B_1)	60 +	12	" "
445	(B_1)	50 +	20	" "
446	(B_1)	70 +	1	Ster
447	(B_1)	70 +	3	"
448	(B_1)	65 +	5	Ceres

449 (B_1) 60 + 10 Cera
450 (B_1) 50 + 20 "
~~(B_1) 63 + 7 Lanolin~~ no Base left to make this oil
451 (B_2) 70
452 (B_2) 70 + 1 Rice
453 (B_2) 70 + 3 "
454 (B_2) 70 + 1 Par oil
455 (B_2) 70 + 3 " "
456 (B_2) 70 + 1 Pepi
457 (B_2) 70 + 3 " "
458 (B_2) 70 + 1 Ser
459 (B_2) 70 + 3 "
460 (B_2) 65 + 6.5 M. O.
461 (B_2) 60 + 12 " "
462 (B_2) 50 + 20 " "
463 (B_2) 65 + 5 Cera
464 (B_2) 60 + 10 "
465 (B_2) 50 + 20 "
~~(B_2) 63 + 7 Lanolin~~ no Base left to make this one
466 (B_3) 70
467 (B_3) 70 + 1 Rice
468 (B_3) 70 + 3 "
469 (B_3) 70 + 1 Par oil
470 (B_3) 70 + 3 " "
471 (B_3) 70 + 1 Pepi
472 (B_3) 70 + 3 "

473 B_3 70 + 1 Nur.
474 B_3 70 + 3 "
475 B_3 65 + 1.5 Mr. Ol.
476 B_3 60 + 12 " "
477 B_3 50 + 20 " "
478 B_3 65 + 5 Cures
479 B_3 60 + 10 "
480 B_3 50 + 20 "
481 (S) 100 + 21 (Pb) + 0.5 (Lime solution)
482 (S) 100 + 21 (Pb) + 0.5 (Pb acetate)
483 (S) 100 + 21 (Pb) + 1 (Pb in carbonate)
484 (S) 100 + 21 Pb + 1 (Pb acetate)
486 Car 8 + 72 Mr. Ol.
486 Car 24 + 56 Mr. Ol.
487 Car 40 + 40 Mr. Ol.
~~488 Car 56 + 24 Mr. Ol.~~
~~489 Car 72 + 8 Mr. Ol.~~ } Did not [illegible] shrinkage [illegible] much.
498 (B_4) 70
499 (B_4) 70 + 1 Pyr
500 (B_4) 70 + 3 "
501 (B_4) 70 + 1 Parvil
502 (B_4) 70 + 3 "
503 (B_4) 70 + 1 Pyr
504 (B_4) 70 + 3 "
505 (B_4) 70 + 1 Nur

Stearate bases:

No. 1 400 S + 260 $NaClO_3$ + 12 mg. Hel

No. 2 400 S + 520 " + "

No. 3 " + 1000 " + "

176 B_4 70 + 3 Nir.

177 B_4 65 + 5 Mo. Ph.

178 B_4 60 + 12 " "

179 B_4 50 + 20 " "

180 B_4 65 + 5 Acres

181 B_4 60 + 10 "

~~182 B_4 50 + 20~~ ... of nitroglycerin to make a cast

182 B_5 70

183 B_5 70 + 1 Pyri

184 B_5 70 + 3

185 B_5 70 + 1 Pyr. ri

186 B_5 70 + 3 " "

187 B_5 70 + 1 Pyri

188 B_5 70 + 3 "

189 B_5 70 + 1 Nir

190 B_5 70 + 3 "

191 B_5 65 + 6.5 Mo. Ph.

192 B_5 60 + 12 " "

193 B_5 50 + 20 " "

194 B_5 65 + 5 Acres

195 B_5 60 + 10 "

196 B_5 50 + 20 "

197 B_5 63 + 7 Lauric acid

198 Reg. white ointment by M. A. R. Solution

199 Na-Stearate base No. 1 wit alcohol

520. Na-5 base No.1 few bubbles
521. Same as 520, still fewer of bubbles.
522. Na 5 base No.1 with excess of H_2O
523 " " No2.
524 " " " with some alcohol
525 Same as 524
526 " " "
527 Na5 base No 1. with considerable alcohol
528 Same as 527.
529 " " "
530 " " "
~~531~~ " " "
531 Na5 base No 1. with considerable alcohol
532 Na5 base No 1., boiling, many bubbles.
533 $\frac{No\,1}{8}$ A
534 $\frac{No\,1}{8}$ B
535 $\frac{No\,1}{8}$ C
536 $\frac{No\,2}{5}$ A

537. No. 2/5 B

538. No. 2/5 C

539. No. 1/10 A

540. No. 1/10 B

541 No. 1/10 C

542 No. 3/1 A

543 No. 3/1 B

544 No. 3/1 C

545 No. 3/1 D chicken

a = 18 base + 2 $\bar{S}$; b = 16 base + 4 $\bar{S}$; c = 14 + 6
d = 12 + 8; e = 10 + 10; f = 8 + 12; g = 6 + 14; ~~h~~
~~i~~; h = 4 + 16; i = 2 + 18.

Zinc Tri bases.

I. 90 g $Zn\bar{S}$ + 10 g $\bar{S}$ + 8 Loss
too slippy, glassy.

a. Pretty good; high m.p.
b. Flifist, worse; much lower m.p., dry cut, sugar
c. N.G.
d. N.G.
e. Cryst. Very good on chilled surface, quite clumpy.
f. Much worse.
g. Rough grain, N.G.

II. 50 g $Zn\bar{S}$ + 50 g $\bar{S}$ + 4.0 Loss
pretty bad. high m.p.

a. Cryst. N.G.
b. N.G.
c. N.G.
d. N.G.
e. N.G.
f. N.G.
g. N.G.
h. N.G.
i. N.G.

III. 10 g. $Zn(NO_3)_2$ + 90 S_2 + 7.5 $LiOH$
N. G. (brown, powdery.)

a. N. G.
is not

Mg & Li bases.

I. 90 $\bar{S}$ + 10 MgO + 7.5 Li_2O
N. G.

a, b, + c. N. G.

II. 80 $\bar{S}$ + 20 MgO + 6.5 Li_2O
N. G.

a. Chalky surface pretty good
b. N. G.
c + c. N. G.

III. 70 5 + 30 Mg 5 + 6 Li OH
OK.

IV. 60 5 + 40 Mg 5 + 5 Li OH
~~[illegible]~~ [illegible] chipping OK.

a. Cryst? not very good.
b. worse
c. w. H. G.

V. 50 S + 50 MgS + 4 Li
OK.

a. OK.
b. not quite so good.
c. c. N. G

Transfer of No. IV

VI. 40 S + 60 MgS + 3,5 Li
glassy, much worse
~~Gel = Excellent~~

a Excellent
b good
c much worse
d. c. N. G

a. Perfectly transp., chipp
b. Semi " " ; excellent pan, chipp
c. Excellent
d. Excell., c. c. N. G

VII. 30 S + 70 MgS + 2.5 Li
Good fracture, glassy, chippy

a. Glassy, chippy
b. Rough grain, chippy
c. N.G.
d. Excellent chilling surface
c+c. N.G.

VIII. 20 S + 80 MgS + 1.5 Li
Good fracture, glassy, chippy

a. Same
b. Worse grain
c+c. N.G.

IX . 10.5 + 90 Dy 5 + .8 Li Oh

Hard, chippy, good practice

a. Same

b. Transparent yet otherwise same

c. Excellent chilled surface

d. Excellent

e. Excellent (cover!)

f. Not quite as good

g. N. R.

546) 150 mg. m. + 1.5 No 1 Dope
547) 150 " " + 3 " " "
548) 150 " " + 4.5 " " "
549) 150 " " + 6 " " "
550) 150 " " + 7.5 " " "
551) 150 " " + 15 " " "
552) 150 " " + 30 " " "
553) 150 " " + 50 " " "
554) 150 " " + 1.5 No 2 Dope
555) 150 " " + 3 " " "
556) 150 " " + 4.5 " " "
557) 150 " " + 6 " " "
558) 150 " " + 7.5 " " "
559) 150 " " + 15 " " "
560) 150 " " + 1.5 No 3 Dope
561) 150 " " + 3 " " "
562) 150 " " + 4.5 " " "
563) 150 " " + 6 " " "
564) 150 " " + 7.5 " " "
565) 150 " " + 15 " " "
566) 150 " " + 30 " " "
567) 150 " " + 50 " " "
568) 90 (11) + 10 L.R.
569) 80 " + 20 " "
570) 70 " + 30 " "
571) 60 " + 40 " "

572 50 [illegible] + 50 LR
573
574
575
576
577
578
579
580

[ITEM FOUND IN BOOK]

~~Dont~~

130 Dont jump out good qual - Scratch bad
40 jumps out little " "
X 30 Very loud dont jump out. Cracklers + scratch
DR — scratches more than 27-1/2 as loud as X30
80 Scratches bad 3/4 of loud of X30
110 " " "
100-15 Gain what wire jumps out Dont scratch very much
120 — Dont jump out, loud Scratches bad
29 R — not loud, jumps out, scratch not great,
50 — Dont jump out "
13 R — Very much less scratch than 27 — in fact scarcely hear it — its not loud —
AR Very little scratch jumps out little not quite so loud as 27 —

[ITEM FOUND IN BOOK]

140/65°

[illegible] 60°

[illegible]

21 Scattered [illegible] 27/60 [illegible], jumping out [illegible]

24 [illegible]

27 Scattered [illegible] 27/60/140

BR Scattered about same as 27/60/140 apparently on jumping out.

[ITEM FOUND IN BOOK]

Angle 60°

21. Ramp

24. Qual. good, to

26. Ramp

140° Angle 60°

13. Unscratched, but dull, qual. poor

27 Qual. good, Slight continuous scratch, jumps out, probably wants higher temp.

21. Scratch a little less than 27R.
Qual. not so good, because jumped out more.

26. Qual. No good, jumps out, qual.
Scratch about same as 27

24. Jumps out, scratches more than 27

[ITEM FOUND IN BOOK]

23 Jumps out, scratches, more than 27

30XE Good qual., cracks, & scratches more than 27

40E ~~Too~~ Same as 30X

130E Qual. Good, scratches very much more than 27.

BE Scratches about same as 27; but is not so [illegible]

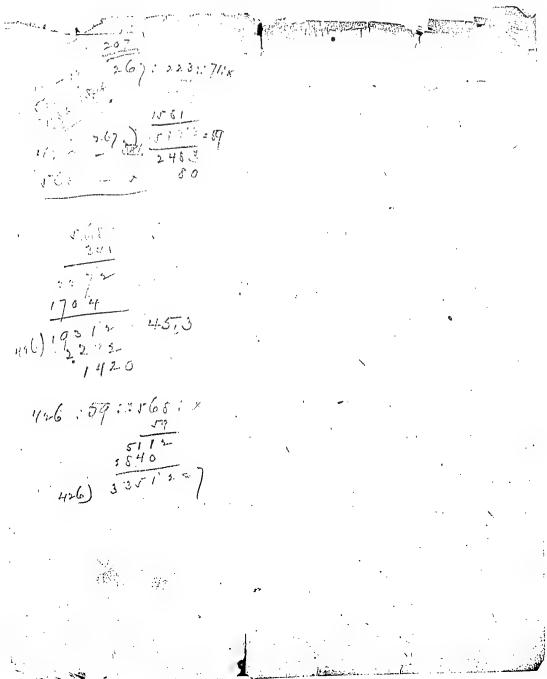
DR Scratches more than 27, jumps out, but is low

110E Scratches more than 27.

*40X Smooth in the microscope. Scratch about same as 27; not so low.

[ITEM FOUND IN BOOK]

[ON BACK OF PRECEDING PAGE]



[ITEM FOUND IN BOOK]

[illegible] Fair, Mint, Aug 60 3.

[illegible]

[illegible] Scratch [illegible]

120 E [illegible]

50 E Edge jumps out, scratch, [illegible] than 2

100 E Same as 50 E

90 E Terrible scratch, n.g.

~~Scratches~~

29 R Also scratch than 2, not so long, not deep

AR Jumps out. Scratches slightly more than 2

[ITEM FOUND IN BOOK]

Bert,

Filter your S through linen before putting in the PBO. You may receive the filters S on perfectly clean plates, then clean the pot carefully, ~~&c~~ melt up the filters S in it, and add the PBO. Don't superheat.

M. A. R.

and temp

15 R—

Same as 19—

[ITEM FOUND IN BOOK]

[ON BACK OF PRECEDING PAGE]

$\approx 4.5 \times 10^{0}$ 950

12

70

840

900

.5

4.5

70) 800

I. $1000\ B_0 + 5g\ LiOH = B_1$

II. $1000\ B_0 + 1.0g\ LiOH = B_2$

III. $1000\ B_0 + 9g\ LiOH = B_3$

IV. $1000\ B_0 + 8g\ LiOH = B_4$

V. $1000\ B_0 + 3g\ LiOH = B_5$

[ITEM FOUND IN BOOK]

17 R and temp
Spongy one side - jumps out
Chips showed 6_2 even
& taken 120 temp -

and temp -
20 R -
Chips oil Good -
Wants 120 abt -

[ITEM FOUND IN BOOK]

Ord Temp –

19 R

Quality good –
Chips badly – one side
spongy – wants to be
taken 110 to 130 –
while pumped under Micro
dont sound so –
Can be improved by
getting it even –

18 R 75 deg
ord Temp

One side spongy –
Slightly too dragy
If got even & not spongy
on one side & not quite
so dragy it would be
good – Cant take at
higher temp than
normal –

[ITEM FOUND IN BOOK]

125 Temp

17R = Scratches

Dont see why - good time

Loudness not as good as

16R

125 Temp

19R - Chipped out

wants slight refiling

for 125 Temp

[ITEM FOUND IN BOOK]

Good, chips out, 16R to be taken at 120°F.

[ITEM FOUND IN BOOK]

125 Temp

15 R = one side chipped out – Can't tell ~~abt~~ scratch – it wants a little softening for 125 Temp

16 A is good 125

No scratch to amount to anything – its tracked deep & does not chip but jumps out, the only question is Can it be tracked deep enough to prevent jumping out without chipping or scratching – I think it Can – Re try at 130

[ITEM FOUND IN BOOK]

125 Temp

20 R – good – not quite
so good as 16 R – spongy
one side – not jumped out
so much as 16 R –

[ITEM FOUND IN BOOK]

129

Dials chipped out
probably wants 140.
to stop it - Sherry —
chipping out makes it
varnish Quite good —
jumps out - wants higher
temperature — 140 @ 145 or higher
So Cum track deeper without
chipping —

14 R - jumped bad —
fried some [illegible]
no chips out polished
moderately
jumped out no bad
to reproduce - should be
taken over again

[ITEM FOUND IN BOOK]

[ON BACK OF PRECEDING PAGE]

$$\begin{array}{ll} 66 & -60 \\ 46 & -x \\ \hline \end{array} \qquad 66\overline{)2760} \quad \frac{42}{1120}$$

46

[ITEM FOUND IN BOOK]

129 —

No 11 R.

Seems to be chipped out

looks funny

Jumped out — no efflorescing

Cylinder good —

good — very little scratch

although record Rough —

if this cemed be got rid of

as it would be very good —

it is chipped in bottom of slots

probably wants 140 deg —

A Note on the Sources

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176

END

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